Published every Saturday by the Simmons-Boardman Publishing Company, 34 North Crystal Street, East Stroudsburg, Pa., with executive offices at 30 Church Street, New York

All communications should be addressed to the New York Office, 30 Church Street

EDWARD A. SIMMONS, *President*
LUCIUS B. SHERMAN, *Vice-Pres.*
HENRY LEE, *Vice-Pres.*
SAMUEL O. DUNN, *Vice-Pres.*
CECIL R. MILLS, *Vice-Pres.*
FREDERICK H. THOMPSON, *Vice-Pres.*
ROY V. WRIGHT, *Sec'y.*
JOHN T. DEMOTT, *Treas*

CHICAGO:
105 West Adams St.

WASHINGTON:
17th and H Streets, N. W.

CLEVELAND:
Terminal Tower

SAN FRANCISCO
215 Market St.

Editorial Staff

SAMUEL O. DUNN, *Editor*
ROY V. WRIGHT, *Managing Editor*
ELMER T. HOWSON, *Western Editor*
H. F. LANE, *Washington Editor*

B. B. ADAMS
C. B. PECK
W. S. LACHER
ALFRED G. OEHLER
F. W. KRAEGER
E. L. WOODWARD
J. G. LYNE
J. H. DUNN
D. A. STEEL
R. C. AUGUR
R. A. DOSTER
JOHN C. EMERY
MARION B. RICHARDSON
H. C. WILCOX
NEAL D. HOWARD
RICHARD W. BECKMAN
LLOYD GEORGE
CHARLES LAYNG
GEORGE E. BOYD
WALTER J. TAFT
GARDNER C. HUDSON
M. H. DICK
W. J. HARGEST

*The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.)*

Subscriptions, including 52 regular weekly issues and special daily editions published from time to time in New York, or in places other than New York, payable in advance and postage free; United States, Mexico and Canada, $6.00. Foreign countries, not including daily editions $8.00.

Subscriptions for the fourth issue each month only (published in two sections, the second of which is the Motor Transport Section) payable in advance and postage free; United States, Mexico and Canada, $1.00; foreign countries, $2.00. Single copies, 25 cents each.

# Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name Registered U. S. Patent Office.

Vol. 88 April 12, 1930 No. 15

## *In this Issue*

**New Haven Deluxe Train Service Between New York and Boston** ..... Page 854

A description of the parlor cars, observation-lounge car and dining car used on the "Yankee Clipper," new fast train between New York and Boston.

**What Railroads Are Doing With Tractors** ..... 857

How a number of roads obtain cheaper, faster and safer operation by the use of power machines in store yards and shops.

**1929 A Banner Year for Wabash** ..... 863

With an operating gross and net higher than in any previous year in its history, this road is in a good position to follow an aggressive consolidation policy.

EDITORIALS

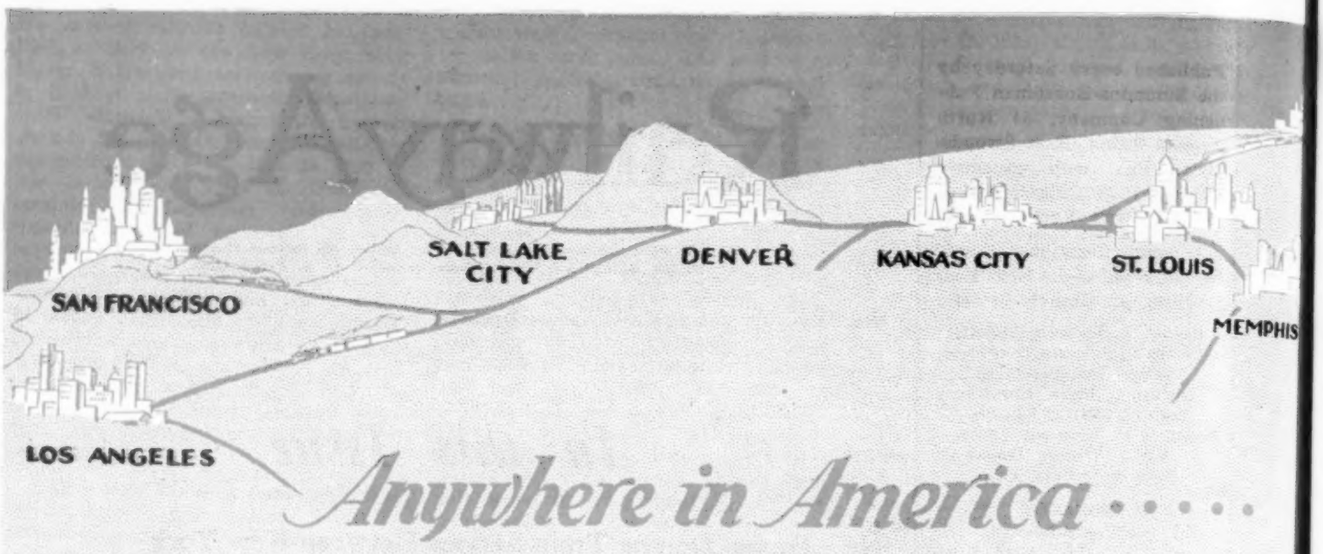
Recapture of Earnings Under the Howell Bill ..... 851
Widening Railroad Ownership ..... 852
Railway Wages in 1929 ..... 852
Thin Floors for Grade Separation Structures ..... 853
The Economic Value of Automatic Interlockings ..... 853

GENERAL ARTICLES

New Haven Deluxe Train Service Between New York and Boston ..... 854
What Railroads Are Doing With Tractors ..... 857
1929 A Banner Year for Wabash ..... 863
Government Barge Line Operated at Loss in 1929 ..... 864
An Efficient Coaling Plant ..... 865
Controversy on Hand Brakes ..... 866
The Steel Founders' Contribution to the Railroads, by W. M. Sheehan ..... 867
Yielding Positive Barrier for Highway Crossings ..... 869
A New Flexible Pipe Coupling ..... 870
Railroad Ownership Inquiry, by Harold F. Lane ..... 871
Proposed Railway Legislation ..... 874
Freight Car Loading ..... 874
Adverse Report on Short Line ..... 875
Cincinnati Terminal Efficient ..... 875

COMMUNICATIONS AND BOOKS ..... 876
LOOKING BACKWARD ..... 877
ODDS AND ENDS OF RAILROADING ..... 878
NEWS OF THE WEEK ..... 879

*The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service*




*Anywhere in America* . . . . .

*St. Louis*

*Kansas City*

*Oakland*

FROM Los Angeles to Boston; from Florida to Puget Sound; anywhere in America you will find "Union" Electro-Pneumatic Interlocking In the many years that "Union" Electro-Pneumatic Interlocking has been available, railroads have derived benefit from it. The three largest interlockings, from the standpoint of operated functions are Electro-Pneumatic; in fact most of the largest terminal interlockings are of this type. Beside these, there are many isolated locations where "Union" Electro-Pneumatic Interlocking has been and is being installed.

*Philadelphia*

*Dallas*

*Richmond*

*District Offices*

NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO

Railway Age

Vol. 88, No. 15 April 12, 1930

Table of Contents Appears on Page 5 of Advertising Section

# Recapture of Earnings Under the Howell Bill

IF the Howell bill should become a law, the first test of its constitutionality probably would result from the attempt to give effect to its recapture provisions. The fact that in each territory railways of different earning capacities must charge the same rates makes it difficult to secure court decisions effectively determining whether the rates railways are allowed to charge are confiscatory. The measure of the earnings an individual railway is entitled to make and retain is—or heretofore has been—the value of its own property, and therefore it is easier to determine by litigation in the courts whether a proposed recapture of earnings from an individual road would be confiscatory, and therefore unconstitutional.

The recapture provisions of the Howell bill are quite different from those of the Transportation act. Instead of requiring recapture from each carrier that earns more than six per cent in any year, they require recapture from each carrier that earns an average of more than six per cent in any period of two years. Instead of a valuation of each railway being used in determining what percentage of return that railway earned, the "rate base" of the railway, as fixed by the Interstate Commerce Commission, would be used. If the railway in any two-year period subsequent to January 1, 1930, earned an average of more than six per cent, it would be required to retain one-half of its excess income "as trustee for the United States," instead of handing it over to the government to be used by the Interstate Commerce Commission, as now provided in the Transportation act; and it would have to invest the money thus retained "with the approval of the commission in providing designated extensions of line or lines or other additions to or betterments of" its own property, and charge it to a "public investment account," which could not be included in the rate base.

### *Use of "Excess Income" Prescribed*

Under the Transportation act each railway may retain the other one-half of its excess income, and use it in years when it earns less than six per cent, to pay interest or dividends; but when the carrier earns more than six per cent this one-half of its excess income must be retained by it in a reserve fund until the fund becomes equal to five per cent of the value of its property, after which it is free to make any lawful use of its one-half of its excess income. The provisions of the Howell bill would operate in the same way until the carrier's reserve fund became five per cent of its "rate base," but "when such a fund is so accumulated, and so long as it is maintained, the remainder of said excess income, held as trustee for investors, shall be used for the purpose of liquidating fixed obligations, * * * or by the purchase of the carrier's securities in the open market." In other words, if a railway had built up a reserve fund of five per cent and was earning more than six per cent on its rate base it would have to pay all of its interest and dividends out of its return of six per cent, because it would then be unlawful for its management to pay any of its excess income out in dividends, or to use it for any other purpose excepting those specified in the bill.

Of course, the most important of these provisions is that which would make the net operating income of a railway in excess of six per cent on its "rate base" subject to recapture. Its rate base would be fixed by the commission in the manner described in an editorial entitled "Valuation or 'Rate Base'?", which was published in the *Railway Age* of April 5. A rate base thus arrived at unquestionably would be substantially lower than a valuation made in accordance with the decision of the Supreme court in the O'Fallon case. The court held that the valuation of the O'Fallon railway was unlawful because not made in accordance with the LaFollette valuation act. The provisions of the LaFollette act disregarded by the commission in the O'Fallon case are in accordance with a long line of decisions of the Supreme Court defining how valuations of railroads and public utilities must be made in order to be constitutional. It seems necessarily to follow that the recapture provisions of the Howell bill are unconstitutional, because they would make a "rate base" instead of a fair valuation the measure of the earnings a railway would be entitled to make and retain. The Supreme Court has upheld the principle of recapture of earnings in excess of six per cent on a fair valuation; but a fair valuation and a rate base arrived at as provided by the Howell bill would be two widely different things. It is also questionable whether Congress can constitutionally control, as provided in the Howell bill, the use made by a

railway management of the one-half of its excess income that a railway is allowed to retain for its own use.

### *Partial Government Ownership*

The Howell bill provides for a considerable increase of interference by the commission in the management of the railways. Each railway that earned over six per cent would be required to invest the one-half of its excess income retained by it as "trustee for the United States," "with the approval of the commission in providing designated extension of line or lines or other additions to or betterments of" its property. The investment thus made would be owned by the government of the United States. The railway would not only have to make it, but would have to make it as directed by the commission. This would involve the introduction of an uncertain amount of government ownership and management into the railroad industry. All those who are understood to have participated in writing the Howell bill are advocates of government ownership. Perhaps they are influenced by the old saying that if a camel once gets his head into a tent he is likely to soon get in the rest of his body. There is also government management involved in the provision by which Congress would dictate to each railway the use it should make of its own one-half of its excess income after it had accumulated a reserve fund equal to five per cent of its "rate base."

The nation owes entirely to the managements and employees of the railways the progress that has been made since the Transportation Act was passed in 1920 in improving railway properties, operation and service. That progress has been achieved in spite of the fact that the Interstate Commerce Commission has persistently refused to make a valuation in accordance with existing law, or even to allow the railways to earn a fair return on the commission's own tentative valuation. It is now proposed by those who support the Howell bill to adopt a basis for the regulation of rates and the recapture of earnings which would be plainly confiscatory under every past decision of the Supreme Court regarding what is a fair return for railways and public utilities; to further restrict the discretion of railway managements, to give the commission a large measure of abitrary authority, and to introduce a considerable amount of government ownership and management into the railroad industry.

The Howell bill has been written by government-ownership advocates and will be supported by every radical in the country with intelligence enough to understand its meaning. It should be opposed by every person who is opposed to socialistic tendencies. Unfortunately, socialists and other radicals usually show more intelligence in recognizing socialistic tendencies than business men and others who profess to be opposed to such tendencies. There is constantly increasing danger that the regulation of railways will be entirely dominated by radicals inside and outside of the Interstate Commerce Commission, and unless the business interests of the country soon awaken to a realization of this fact they may awaken later to a realization of the fact that regulation has made it impossible for the railways to continue to be successfully managed under private ownership.

## Widening Railroad Ownership

STOCKHOLDERS of the Pennsylvania Railroad, it is announced, now total more than 206,000, thus carrying a step further the company's plan of extending and widening its ownership. The process which is enabling the railroad at the present time to announce each month an increase in the number of its stockholders is its plan for the sale of stock to employees by time payments under which each month, as final payments are made, new names are added to the rolls.

The potential benefits of widespread stock ownership, and particularly such ownership by employees and patrons, have been thoroughly discussed and the benefits which should be expected from such a policy, provided the company is sound financially, seem greatly to outweigh any possible objections. On the other hand, even enthusiastic advocates of such a policy would admit that few of the possible advantages of widespread ownership can be realized unless the policy is pressed to the reasonable limits of its potentialities. In other words, there is some advantage in securing participation in ownership by, say, 10 per cent of the total number of employees or of patrons; but we will never know fully just how beneficial the plan may be until a much higher percentage of participation is secured.

The determination to give the policy a real trial seems manifest on the part of several of the leading railroads which have in recent years persisted in promulgating plans to facilitate and make attractive the purchase of stock by employees. Widely diffused railroad ownership, therefore, will apparently have a thorough trial. It is a development which the entire railroad industry may well follow with interest.

## Railway Wages in 1929

THE average compensation of railway employees is shown by recent statistics of the Interstate Commerce Commission to have been higher in 1929 than in any other year in history excepting 1920, and to have advanced more last year than in any year since the post-war reductions were made in 1921 and 1922. Average compensation per employee in 1920 was $1,820. The lowest point since reached was in 1924, when it was $1,613, or $207 less than in 1920. Average compensation in 1929 was $1,742. This was $78 less than in 1920, but $129 more than in 1924, and $36 over 1928.

Average annual compensation is determined, of course, by the average time worked per employee, as well as by the daily or hourly wages paid. The compensation received by the average employee for his

year's work was almost 4.3 per cent less last year than in 1920, but he worked fewer hours. The average wage paid per hour last year was only about 1½ per cent less than in 1920, the figure for 1920 being 67.6, and for 1929, 66.6 cents.

In 1929, as compared with 1928, average straight-time wages were increased from 61.3 cents an hour to 62.5 cents for employees working on an hourly basis, and from $8.29 a day to $8.42 for employees working on a daily basis. Likewise, there was an increase of more than 6,000 in the average number of employees. These two factors resulted in an increase of approximately $70,000,000 in the total railway payroll in 1929, raising the wage payments in that year to $2,896,000,000. While this figure does not represent a new record, having been exceeded in four years in the past when there were more employees, it vividly portrays both the importance of the railways as employers and the weight of the railway employees' purchasing power. These 1929 total wage payments represented an average of more than $5,500 for every minute of every day in the year.

## Thin Floors for Grade Separation Structures

EVERY grade separation project, whether it concerns the crossing of two railroads or a railroad and a highway, necessitates changes in the grades of one or both of the roadways involved and, in general, it may be said that the grading quantities required, the territory embraced in the changes of grade, and the severity of the problems of gradient and drainage imposed are proportionate to the difference in the elevation of the two roadways at the site of the grade separation structure. As a consequence, severe pressure is often imposed to reduce this difference to a minimum.

The difference in elevation of the two roadways is made up of two elements, namely, the clear headroom provided for the traffic way under the structure, and the thickness of the floor or the floor depth provided in the overcrossing structure. Inasmuch as the headroom is usually fixed by statute, ordinance or the rules of a public service commission, it is only by making the floor depth less than that required for the most desirable form of construction that the difference in elevation may be reduced.

There is a rather marked difference between the floor depth needed for a structure providing ballasted track and effective waterproofing, and that which will suffice for a special design in which minimum depth is the primary consideration. But such a reduction in depth is secured only at an appreciable sacrifice of certain desirable attributes in a bridge structure, such as adequate drainage, thoroughly reliable waterproofing and low maintenance costs.

The structural designer, when called on to do so, can evolve some exceedingly ingenious designs in which even the rivet heads form an important element of the total depth required and this at a cost not greatly in excess of that for conventional construction. But such construction should be used only as a last resort in the solution of a difficult problem of grade separation and with a full realization of its disadvantages from the standpoint of maintenance. To do otherwise will lead to undeserved criticism of the officer who sponsored the design in an effort to meet what he believed to be an imperative need.

## The Economic Value of Automatic Interlockings

UNLIKE many other improvements, one finds, when considering the advisability of installing an automatic interlocking plant, that the reduction in operating expenses that can be effected is tangible, and can be determined with a considerable degree of accuracy. For instance, when such a plant is designed to replace a regular interlocking, it eliminates the necessity for the three tricks of levermen, and thereby effects an immediate saving to the amount of the wages of these men, approximating $5,000 annually, or sufficient in many cases to pay for the cost of the plant in a year and a half to two years.

If, on the other hand, the plant is to be installed at a point where there is no interlocking, the economy is measured by the reduction in train operating costs effected by eliminating the necessity for stopping trains for the crossing, the magnitude of which saving depends on the number of trains so affected. On the basis of a conservative saving of $2 for each train stop eliminated, one large western road which has installed several of these plants, found that where an average of 24 train stops were eliminated on week days and 16 on Sundays, a plant paid for itself in seven months, after deducting wages, interest on investment, depreciation and other costs of the plant.

Still another way to determine the possible economy from an automatic interlocking installation is to approximate the reduction in train hours made possible by the plant and, after placing a proper value on this time, to compare the saving with the cost of operating the plant. The cost of an average automatic interlocking, including all factors, should not exceed $4.65 per day, whereas an investigation made by one division of a large road indicated that $20 per hour was a conservative estimate of those train-operating costs which are subject to reduction by eliminating delay, from which it was concluded that a saving of only 14 min. per train per day would pay for the cost of a plant. There would seem to be no doubt that a saving considerably greater than this would result from the installation of an automatic interlocking plant at any crossing over which six or more trains move daily.

With such simple yet relatively accurate methods of determining the economy of automatic interlockings, there should be no difficulty in ascertaining where they can be installed to advantage.

# New Haven Deluxe Train Service Between New York and Boston

*Five parlor cars, one observation-lounge and one dining car compose the "Yankee Clipper"*

*The Christening of the "Yankee Clipper"*

THE "Yankee Clipper" is the latest in deluxe train service on the New York, New Haven & Hartford between New York and Boston, Mass. This train, which consists of seven cars, built and owned by the Pullman Car & Manufacturing Company, Chicago, was placed in service March 18, 1930. The inauguration of this train service was marked with appropriate ceremonies in both New York and Boston. The equipment was placed on exhibition in South Station, Boston, and in the Grand Central Terminal, New York, on the day the train made the first run, when the cars were open for inspection by the public. Over 7,500 persons took advantage of this opportunity to inspect the different cars comprising the "Yankee Clipper" during the five-hour period that the train was on exhibition in New York.

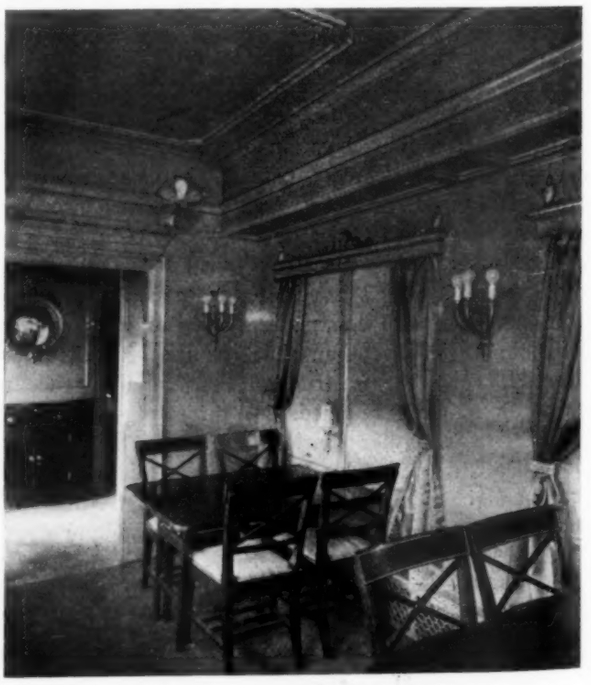
The "Yankee Clipper" follows the short line of the New Haven and makes scheduled stops at New Haven, Conn., and Providence, R. I. It leaves New York and Boston simultaneously at 3:30 p.m. and arrives at its destination at 8:15 p.m., making a total time for the run in either direction of 4 hr. 45 min.

### Interior Design and Decoration

In line with the traditional thought which led to naming the train the "Yankee Clipper," the interior scheme of decoration in all of the cars follows the Colonial design. Each car is named after a clipper ship which was well-known in the days when much of the ocean-going commerce of New England was carried in sailing vessels of that design. A reproduction of an authentic painting of the ship after which the car is named is hung on the end wall near the entrance to the lounge or parlor compartment of each car.

Two tones of blue-green and tan form the prevailing color for the walls and ceiling of all the cars in the train. The carpet laid on the floors of the observation and parlor cars has a large medallion figure and is of a blue and tan shade which harmonizes with the general scheme of interior decoration. The carpet in the dining car is of blue with small gold medallions and rosettes. All the carpeting is laid over Ozite mats.

The observation and club lounge cars are furnished with comfortable armchairs and settees upholstered in blue Morocco leather and blue moquette which gives the interior a comfortable and attractive appearance. The parlor cars are equipped with overstuffed revolving chairs, arranged to slide back after being turned to face a table. Green mohair in various patterns supplies the motif for the parlor-lounge car, with blue decorative tapestry for the drawing room. Rattan easy chairs finished in green Morocco leather have been placed in the sun room of the observation car. The chairs in the dining cars are of mahogany, upholstered in a blue and tan jaspe moquette. The buffet is a copy of an old Colonial design and is of mahogany, inlaid with satinwood over which is hung a Colonial girandole or round convex mirror in a frame of old dull gold. There are no lights hung from the ceiling. Illumination is furnished by lights in wall brackets finished in dull gold. Concealed drapery rods, and draperies and shades which conform to the general decorative scheme tend to

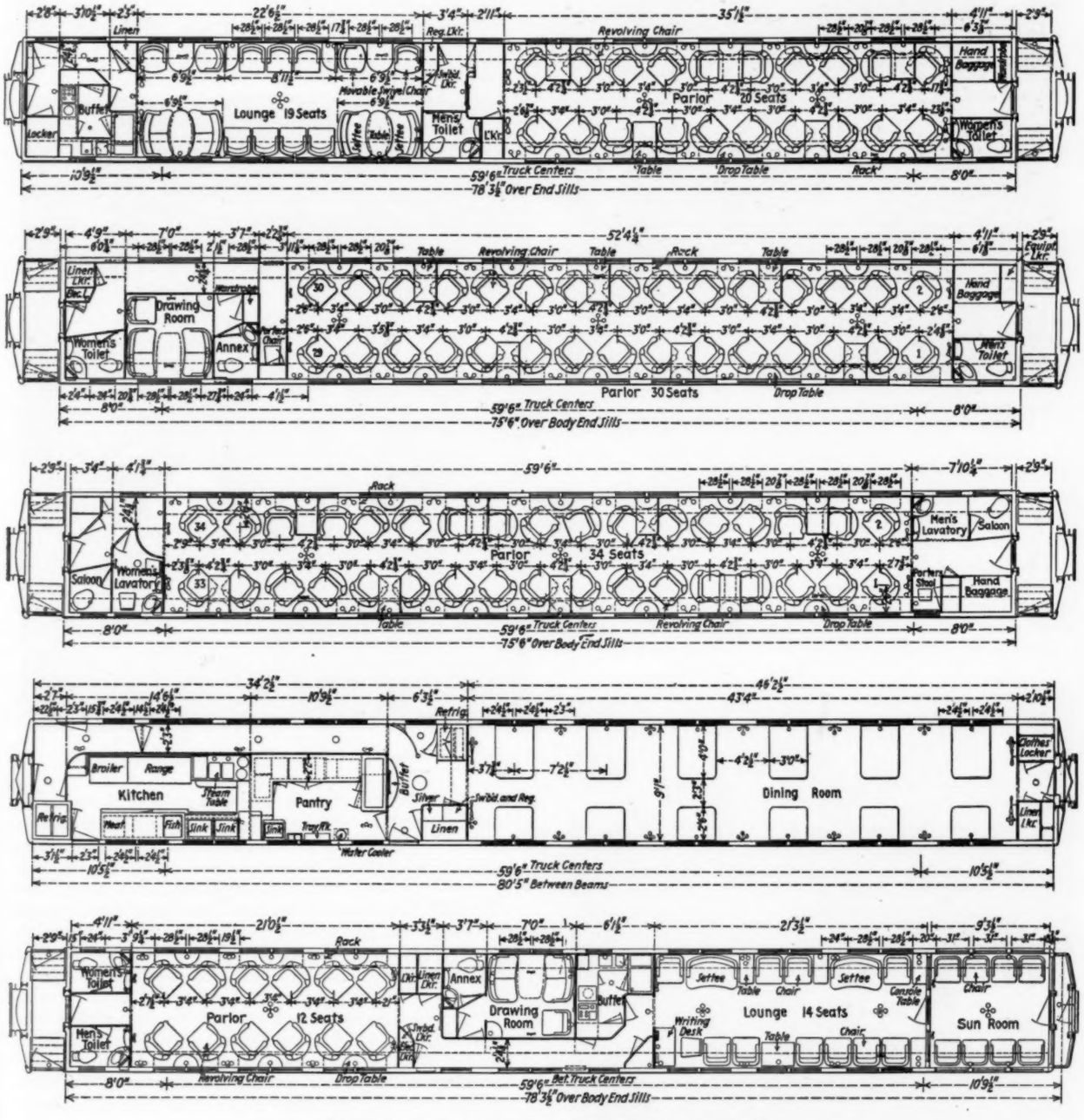


**The Dining Car—The Buffet with the Colonial Girandole Is Shown at the Left**

emphasize the Colonial motif. The windows have old-fashioned pillars on each side and are surmounted by urns, rosettes and floral festoons to suggest the architectural days of the late 70's.

### Dining Car Has Mechanical Refrigeration

The kitchen and pantry of the dining car are equipped throughout with the Frigidaire type of mechanical refrigeration. This includes the meat and fish boxes in the kitchen and the compartments in the pantry for storing clams and oysters, making ice cubes, storing ice cream and frozen desserts, and miscellaneous provisions requiring cold storage. This equipment will manufacture 432 cubes of ice for drinking-water purposes in 4½ hr. Storage space is provided for 576 additional ice cubes. The car is equipped with two axle generator sets which are inter-connected. One set is used for the lighting system, while the other set generates electricity for two 1½-hp. motors which operate the compressors for the Frigidaire equipment. The compressors and motors are hung underneath the body of the car. Ventilation for all the cars in the train is secured through Garland type ventilators. The kitchen is equipped with exhaust fans for removing fumes and cooking odors. The cars are heated with Vapor fin-tube type radiation. All of the cars in the train are equipped with Commonwealth integral cast steel platforms and body bolsters. The trucks are also




**Floor Plans of the Cars as Arranged in the Train**

The top plan is that of the first car in the train. The second drawing from the top is the plan of the second and sixth cars, and the third floor plan drawing is that of the third and fifth cars in the train. The dining car is placed fourth, as shown above, and the observation car last.

**The Pantry—The Cabinet in the Background and the Lockers at the Left are Equipped with Frigidaire**

of Commonwealth six-wheel design, having inside bearings and straight top equalizers. The dining car is equipped with American Steel Foundry roller bearing units having Timken bearings.

The train of seven cars is arranged as follows: The first car is the buffet-lounge-parlor car. The lounge in this car has 19 seats, none of which are sold. Eight of these seats are arranged for card playing. The parlor compartment has 20 revolving seats which are sold. The second car in the train is a parlor car with 30 seats and a drawing room for sale. This drawing room has its own special toilet and washroom annex. The third car is a parlor car with 34 seats for sale. The next car in the train is the diner which has seating capacity for 36 people. Following the dining car, are two parlor cars with 34 and 30 seats, respectively, which are similar in arrangement to the third and second cars in the train. The last car in the train is the observation lounge car which has 12 parlor car seats for sale, and a large drawing room with a special toilet and washroom annex. This drawing room is designed for the convenience of card players or can be used as a work room for any one having business to attend to while enroute. Next to this drawing room is a buffet with a corner cupboard in which the stock is displayed. The lounge room seats 14 persons and is provided with a desk and individual reading lamps placed between the chairs. The observation end of the car is fitted up as a sun room with special glass in the windows which can be raised or lowered by turning a crank-handle placed underneath each window. A total of 160 seats and three drawing rooms can be sold on this train. Forty-one additional lounge seats are provided for further accommodation and comfort.

**Interior of One of the Parlor Cars**

**Lounge of the Observation Car Looking Toward the Buffet**

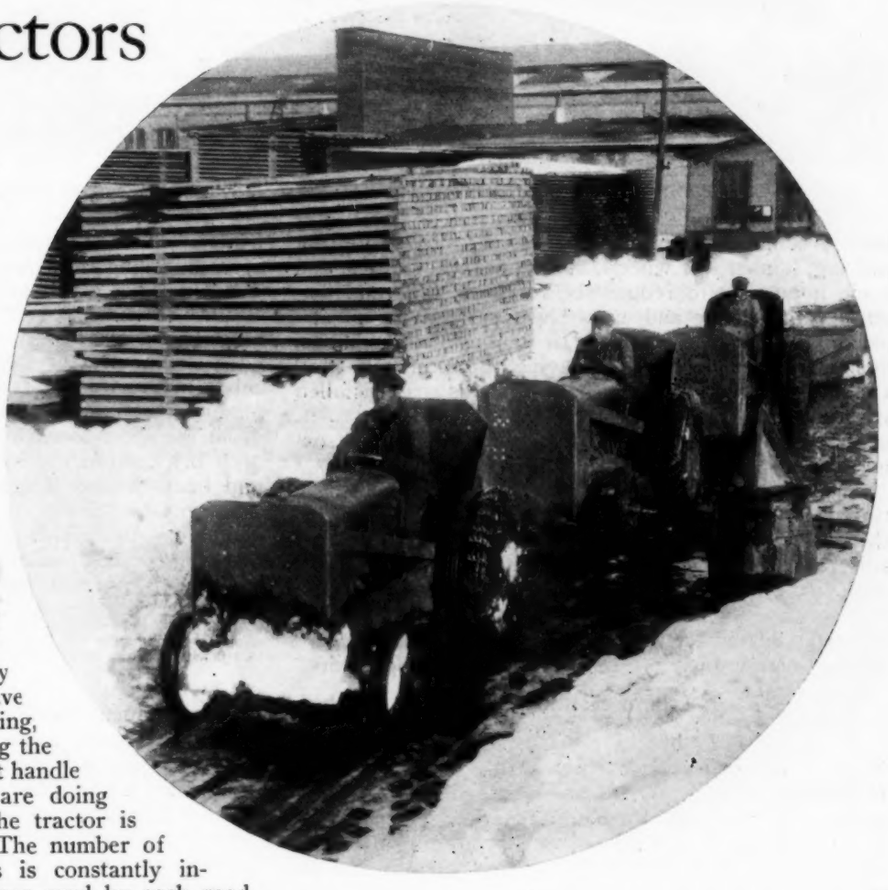
---

THE NATIONAL SAFETY COUNCIL, headquarters at Chicago, has moved its office from East Ohio street to the Civic Opera Building, 20 North Wacker Drive.

DIRECT RAIL SERVICE from western Europe to the Far East via Riga and Moscow has recently been renewed, according to Department of Commerce reports. Trains will leave Moscow for Manchuria on Mondays, Wednesdays and Fridays, while an additional weekly train between Moscow and Vladivostok will leave Moscow every Saturday and Vladivostok every Monday, reaching its destination on Thursday of the following week.

# What Railroads Are Doing With Tractors

*Power machines in store yards and shops giving cheaper, faster and safer operation*



*Fighting Snow on the Illinois Central*

JUST as improved railroad equipment has been speeding the movement of freight in recent years, power machines in the hands of railway stores, shop and car men have been speeding the work of storing, reshipping and otherwise moving the materials that the railroads must handle for their own use, and they are doing many other things besides. The tractor is one form of this equipment. The number of railroads using these machines is constantly increasing; the number of machines used by each road increases; and the uses to which the machines are put also grows rapidly.

The railroads have utilized the tractor particularly for intra-plant haulage. The car and locomotive repair and store facilities usually consist of many shops and other buildings, distributed over large areas. It was once a laborious and slow job to move material in and about the many shop buildings. Push cars were commonly used but, with the installation of tractors, the use of the push car has become practically obsolete. Networks of rails laid for push cars have been torn up. In their place, tractors move on regular schedules, spotting empty or loaded trailers wherever needed and picking them up at definite periods. The time of the mechanic is no longer wasted in obtaining the supplies for his work. He designates his wants and at a scheduled time the supplies are delivered to him.

### Air Pump Applications on Southern Pacific

A common job around a railroad shop is that of changing the air pump on a locomotive. It takes several men a long time to do it by hand. The practice in the Southern Pacific shops at Los Angeles, Cal., illustrates how air pump applications are made at dozens of points at the present time. With a tractor equipped with a 12-ft., one-ton crane, the change-over usually takes but a few minutes and never more than half an hour, depending on how the pump fits into place.

The Chicago & Eastern Illinois has a tractor in its Oaklawn shops equipped with a stiff-leg hoist. It is used for loading and unloading heavy material and also for moving wagons loaded with material around the premises. Before installing the tractor, the time of 12 men was largely used in moving loaded wagons from one location to another, and often more men were required. Since the installation of the tractor, the force has been reduced to six men. Faster work is done, and more accurate deliveries have also resulted from the change.

The Central of Georgia has compiled cost-saving figures in connection with certain of the tractor equipment it operates. A unit in the storehouse at Columbus, Ga., is credited with an annual saving of approximately $1,500 in handling storehouse materials, and a similar tractor at Macon is saving approximately $2,000 in similar work. The savings have not been computed for Savannah, Ga., but it is indicative of their utility that they are handling approximately 150,000 lb. of material daily, except on Mondays when they handle from 200,000 to 300,000 lb.

### Minneapolis & St. Louis

At Marshalltown, Ia., on the Minneapolis & St. Louis, practically all of the work of moving various kinds of material between the store-room and shops was handled manually previous to the installation of a tractor. This tractor, a heavy-duty type, is now used for hauling locomotive flues, scrap iron, bolsters, brake

Shunting a Train of Ties for Preservative Treatment on the Burlington

beams, couplers, journal bearings, car doors, journal packing, lumber, car wheels, and other commodities, and made it possible to reduce the force six men and dispense with a horse and wagon, a payroll saving of approximately $525 a month. In hauling cinders alone, this tractor is reported to be saving approximately $150 a month. Recently at Marshalltown, this road installed an additional tractor which is equipped with a 10-ft. crane and which is expected to effect an additional saving of approximately $500 per month in shop costs.

The Nashville, Chattanooga & St. Louis is using a tractor in the car shop at Nashville, Tenn. This machine handles mounted freight car wheels, steel center sills, freight car truck bolsters and trays loaded with scrap iron, and makes heavy lifts of various kinds in connection with repairs to freight cars. It does the work at an estimated saving of $1,000 per annum with a greater degree of safety than it was ever done before.

### Rock Island Reports Results

A tractor used by the shop forces of the Chicago, Rock Island & Pacific at Silvis, Ill., delivers material from shop to shop and to and from the store department. It is also used for hauling lumber, electrical supplies and tools of all kinds, miscellaneous forgings, casting, etc., for switching loaded freight cars in and out of the shops and at the loading platform, and for dragging cinder fire roads. It is also equipped with a rotary snow brush for cleaning concrete roads of snow in winter. The comparative costs of this work before and after installing the tractor are as follows:

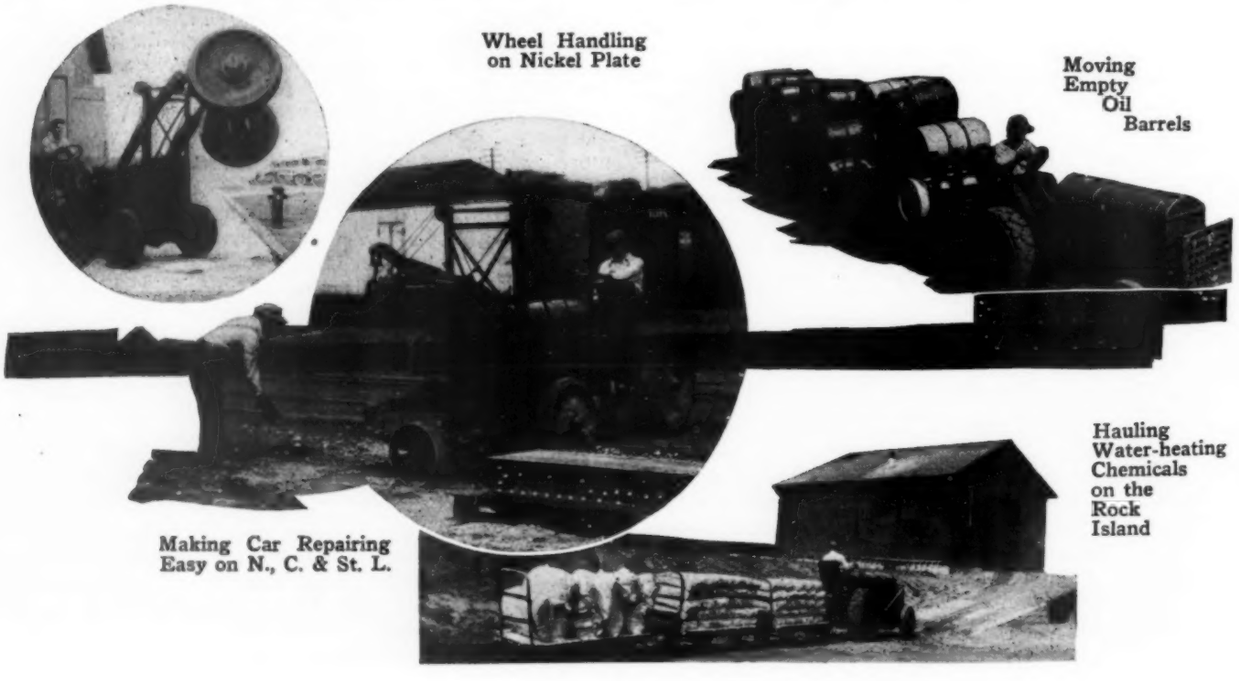
| | |
|---|---|
| Former cost of doing work by hand per year | $8,000 |
| Cost with tractor, including labor, oil, gasoline, repairs, etc. | 1,350 |
| Saving | $6,650 |

A similar tractor used by the store department at Silvis moves trailers from place to place and assists in loading and unloading cars. It also hauls chemicals from the store-room to a water softening plant, hauls arch brick from the storehouse to cars being loaded, and hauls lumber from the lumber yard to cars for shipment to various points. It reduces the time required to release cars, and much time in switching cars from one point to another is saved.

Comparative costs of this tractor's operations are as follows:

| | |
|---|---|
| Cost by hand under old method, per year | $7,000 |
| Cost with tractor, including labor, oil, gasoline, repairs, etc. | 1,350 |
| Saving | $5,650 |

The frequency with which railway tractor operations are credited with savings in switching expense and in switching delays is notable. One of the most important emergency jobs performed is that of spotting loaded or unloaded freight cars when waiting for regular switching service would be inconvenient or costly. Moreover, where cars containing badly needed materials are tied up on tracks some distance from the unloading point, the tractor with trailers fills the gap by permitting the unloading of the cars where they stand.



Wheel Handling on Nickel Plate

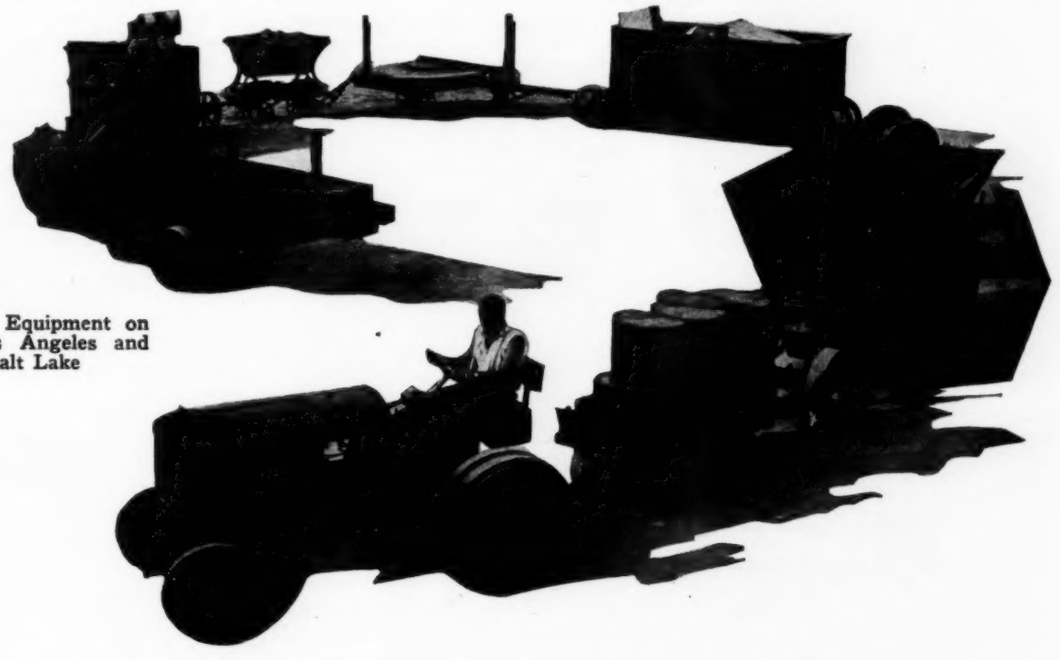
Moving Empty Oil Barrels

Making Car Repairing Easy on N., C. & St. L.

Hauling Water-heating Chemicals on the Rock Island

Effective switching work is done by industrial tractors in the shops of the Atchison, Topeka & Santa Fe at San Bernardino, Cal., where the shop and store forces operate more than a dozen tractors, automobiles and other power units. The tractor in the locomotive department is used principally to move tenders from the incoming track to one of the transfer tables, and thence through the boiler shop. When the shop is full, the tractor, with the aid of another transfer table, switches the tenders to the storage tracks. The tractor also sorts out and moves tanks from the storage tracks into the tank shop, as required. If a tank is finished ahead of the engine, the tractor again switches it to the storage tracks, using both transfer tables as before. The tractor again switches the finished tanks out of storage as they are required on the firing-up track.

This tractor is also used to switch cars of coal and coke for the blacksmith shop; also cars of bar iron and pipe, flues, sheets and shapes; also cars serving the gap plant. This work was formerly done by hand. The tractor also switches all work equipment, such as steam shovels, graders, pile drivers, etc. This equipment and the material cars are placed on the outgoing engine track by the yard switch engine and moved by means of tractor and transfer table to the final loading place, then back to the outgoing track again where the switch engine can reach them.



Tractor Equipment on the Los Angeles and Salt Lake

### Eliminate Overtime

It was formerly necessary to employ the transfer table crew of six men an hour or two overtime nearly every night. Now this is seldom required, and the tractor only works an average of six hours a day. The extra saving by this tractor is suggested by the fact that it relieves the store department of the necessity of moving three or four cars a day.

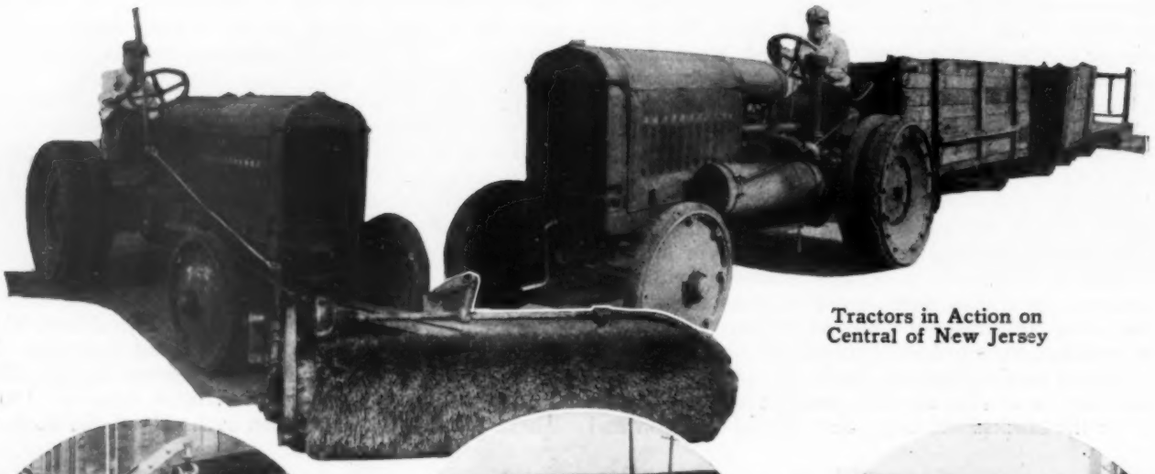
A tractor in the car department is used principally to move oil tank cars under the stationary hoist. The track slopes toward the hoist. It was formerly the practice to push a string of tank cars under the hoist and let them roll down one at a time. The tanks were lifted one at a time and blocked and each car rolled away to make room for the next one. After all the cars had been blocked up, it was necessary to wait until night for a yard switch engine to push them back into the shed. The tractor dispenses with this delay in the tank repair sheds.

This tractor is also used to move an occasional rush car in the repair yard. Without it, the service of a yard engine would be required. It is also employed for moving trash cars and material cars. Both of the tractors are fitted with bumping blocks on both ends for the pushing work they do.

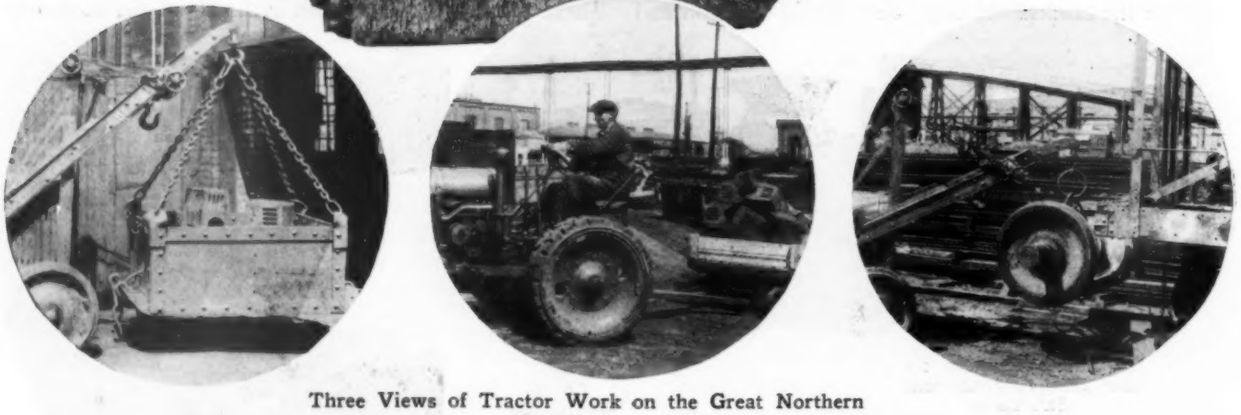
### Save in Scrap Handling

The Chicago, Burlington & Quincy uses a tractor for switching at its scrap dock at Eola, Ill. About 95,000 tons of scrap is handled at this plant annually. The scrap dock is 2,004 ft. long and is served by two 15-ton gantry cranes, each crane having a span of 130 ft. There are two tracks, one on each side of the dock, one for unloading the incoming scrap and the other for loading the sorted scrap. The scrap is unloaded on sorting tables by the cranes and is then sorted into the various classifications and piled around the tables. The cars for the sorted scrap are left by yard engines at the extreme end of the dock, and two empty cars are moved to the first sorting station by a tractor. When this scrap is loaded, a tractor moves the cars to the succeeding stations until they are loaded. It then moves loaded cars to the outgoing end of the dock. This operation is continued until all of the sorted scrap of the different classes has been loaded. The average loading time per car is 30 min. Without the tractor, it would be necessary to bring the scrap long distances by crane and the loading time would be increased to two hours per day. Based on the average number of cars loaded, which is six cars per day, the savings by the use of the tractor are $16 per day.

Other tractors are used by the Burlington at Clyde, Ill., to serve a repair track, and at Galesburg, Ill., to serve a tie plant. At the tie plant, special trams, weighing 1,250 lb. each and equipped with babbitt bearings, carry the ties from the untreated tie yard to the retort yard by tractor power. These are only a few of the ways in which the Burlington uses the internal com-



Tractors in Action on Central of New Jersey



Three Views of Tractor Work on the Great Northern

bustion tractor. They are conspicuous in the road's store work. Recently a tractor equipped with a scraper attachment was used to spread the cinders for a new track.

### Sweep Snow on New Haven

A common use of the tractors on the northern roads is that of clearing roadways of snow. This is illustrated by the experiences of the New York, New Haven & Hartford with a large tractor which has operated for the past two years at the Readville shops. In the winter, the tractor is equipped with a plow and a rotary brush and is used to clear the snow from about 2½ miles of concrete and dirt runways. The tractor and two men do as much work in keeping the walks clear as was previously done by 20 to 30 men, depending on the depth of the snow. Last winter, the one tractor is estimated to have saved $1,500 in this work.

The same tractor is also used for hauling all dirt and rubbish loaded in trailers to a dump about a quarter mile distant. The movement of machinery on skids and rollers is another job of the tractor, while it is also used for long hauls of heavy material loaded in trailers. As nearly as can be determined, the saving through hauling the heavy machinery is approximately $250 a month, or $3,000 a year.

The Pennsylvania makes effective use of tractors for switching work. Two large machines at the Terre Haute car shop and one at the Fort Wayne, Ind., shop are used chiefly for shunting cars on the repair tracks. The tractors have reduced switching charges and provided a service which is available at all times. When not doing switching, the tractors are used to move trailers loaded with shop material.

On many of the railroads, a great deal of attention has been given to the development of special forms of trailer equipment that will secure the most efficient use of the power. The trailers and attachments vary. The Texas & Pacific has had two high powered internal combustion tractors in the shops at Marshall, Tex., since July, 1927. One is equipped with a goose-neck crane and the trailers for these are of several kinds. The regular trailers are stationed at suitable locations in the locomotive and car departments and are picked up on a regular working schedule of the tractors.

Special trailers for hauling trash and scrap are placed in the wood mill, freight car shop, coach shop, locomotive machine and erecting shop, boiler shop, blacksmith shop, roundhouse and in other departments. The trash and scrap are loaded in the trailers during the day and hauled by a tractor, operating on an evening schedule, to the scrap yard and dumping ground, after which they are immediately returned to their original position. These trailers are equipped with swinging sides so that only a few minutes are required to unload them.

For handling heavy material such as flues, driving boxes, driving wheel tires, ends for steel coal cars, steel ends for box cars, side doors and various types of heavy castings required for locomotive, freight and passenger car repairs, the trailers are built specially strong and they are delivered direct to the locomotives and cars on which they are to be used. This system is also convenient for the handling of the circular sheets and ends for tank cars. The trailers for flues are specially-built iron racks capable of holding a complete set of flues. A trailer load is moved to the erecting shop by the tractor, and the rack with the entire set of flues is lifted by an overhead electric crane and placed in front of the locomotive undergoing repairs. A special low-wheel cart has been built for moving mounted car wheels to and from the shop under tractor power, while all scrap wood from dismantled cars is loaded on large

trailers and hauled to the scrap pile or to the reclaiming saw.

The two tractors in use in the Marshall shops, with their complement of trailers, save at least $350 per month, or $4,200 per year, in labor over the previous method of handling material, while additional savings are realized by using these tractors frequently for switching and spotting passenger cars in and out of the passenger car and paint shop, and in switching and spotting cars in the freight car shop and moving cars loaded with heavy locomotive material, such as back ends of boilers, cylinders, frames, etc., in and out of the erecting shop. It has been estimated that approximately $2 per car is saved in labor alone by switching with tractors.

### Great Northern Cuts Handling

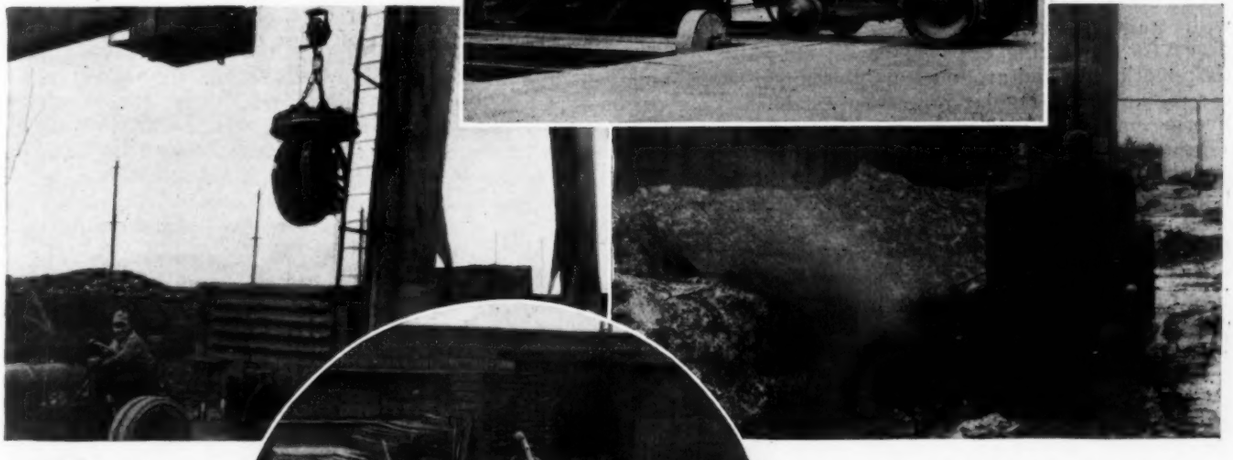
The Great Northern is another road that has surrounded its tractor power with special types of trailers and crane attachments. The store department of this railroad has 13 tractors of various sizes and types, while additional tractors are used by the mechanical department in the larger shops and also by the operating department in the larger stations for moving baggage and mail and express trucks. The equipment includes four tractors of the 10-20-hp. type, one at St. Cloud, Minn., and three at Superior, Wis.

Material handling work has been speeded up by these tractors, while the payroll savings have amounted to many times the cost of the machines. At St. Cloud, Minn., the value of material disbursed annually increased from less than two million dollars in 1921 to more than five million dollars in 1927. During the same period, the cost per dollar of handling material at that store was reduced slightly over 50 per cent. Not all of that reduction resulted from tractor operations, but the local authorities are agreed that a large part of it did.

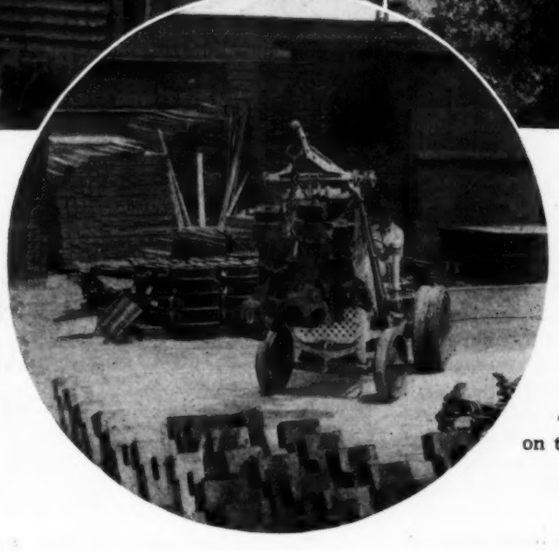
In the lumber yards at St. Cloud and Superior, the tractors operate three-wheeled lumber buggies, each having a capacity of 5,000 to 8,000 ft. b.m. The tractors are equipped with automatic coupling devices so that a driver can connect the tractor with the buggies without leaving his seat. A tractor with a string of four or five loaded buggies, or twice that number of empties behind it, is not uncommon. The empty buggies are taken into the lumber yard and one or more of them uncoupled at each lumber pile. The tractor is occupied elsewhere until the buggies are loaded, when it again makes the rounds, picking up the loaded buggies and taking them to the wood mill.

One of the tractors at the Superior store, which is equipped with a crane, is in constant demand and is

Moving Cars on Union Pacific



Snow Sweeping on Illinois Central



Scrap Handling on the Chicago, Burlington & Quincy

A Crane Tractor in Use on the Nickel Plate

continually being put to new uses. The crane is high enough to load mounted wheels on a flat car. It can reach into the doorway of a box car, pick up two or three car couplers, back away and pile them where wanted. It is especially convenient for handling steel truck sides, car bolsters, etc., material which must otherwise require the use of a steam crane, and is also used for loading, unloading or delivering tires, air pumps, locomotive main or side rods, etc.

The crane tractors have demonstrated their usefulness repeatedly in the roundhouses. With the larger power, the removal of pistons, main and side rods, feedwater heaters, air pumps, buffer beams, etc., from locomotives by manual labor is difficult and not without risk. The crane tractor simplifies the operation and has, to a great extent, removed the danger of injury to those engaged in the work. The tractors operate on cinder roadways, or even over rails and ties where the going is rough.

### Accidents Reduced on Union Pacific

The Union Pacific System has 21 high-powered tractors for speeding the movement of materials and supplies at different points. Some are restricted to straight hauling while others are equipped with cranes and various accessory devices for specialized work. These tractors were introduced not only for economies but for the safety in operation and to assist in the more prompt and efficient movements of materials. They supplant labor required to move warehouse trucks, carts, wagons, wheelbarrows and push cars. The units with hoists are considered more flexible than the heavier and more expensive type of locomotive crane, where the materials to be handled do not exceed the capacity of the smaller hoists.

On the Union Pacific Lines, the tractors are used with trailers, sweepers, snow plows, cranes, hoists, drags for smoothing unpaved roads, etc., and also in shop work. In and around storehouses and shops, and car repair yards, regular routes are established for delivering material, and tractors with trains of trailers (including many ingenious types) are run according to definite schedule where the volume of commodities handled justifies; otherwise, the tractors are dispatched from a centralized control office, according to needs. On these lines, a tractor without crane or other attachments, but properly supervised, is considered to save at least $15 per day, while the tractors equipped with cranes and other specialized devices effect greater savings, according to the type of accessories employed.

### On the Nickel Plate

The experiences of the Nickel Plate invite attention. At present, this road is using seven high-powered tractors in its principal repair shops and storehouses. Previously in the freight car repair yards, all scrap iron, lumber and rubbish was moved by sending a gang of men through the yard with a push car. The present practice is to place trailers at different points in the yard. As soon as any rubbish is accumulated, it is thrown directly in the trailer and at definite periods during the day the tractor collects these trailers and moves them to destination. In the car repair yards of this road, the progressive system of repairs is used, which means that the cars must be moved into the new position each day. The tractors have proved of great value in doing this work. Recently when one of the tractors was out of service it required about ten men to push the cars into position.

In the stores department, the tractors have speeded up the delivery of material. One tractor commonly pulls a train of eight to ten trailers, which are dropped off at their respective destinations and again picked up when emptied. Some of the tractors are equipped with hook and crane for lifting heavy castings, and it is significant of their value in this work that truck bolsters and side frames and similar castings are commonly moved to and from the repair track by one man, as contrasted with the necessity of using six men previously.

### Speed Shop Work on Monon

The Monon has equipped its stores with three heavy-duty tractors, and has both speeded up production in the car department and effected considerable reduction in the cost of handling materials. The tractors also solved this road's problems in releasing cars loaded with materials for more than one destination at its shops. Formerly a car would be switched to various points in the yards before being shipped. With tractors, a car is unloaded at the point where first placed and the material carried on trailers to destination. This not only reduces the switching expense but saves the per diem expense, when a foreign car is involved. Loaded cars, not properly spotted by switching crews, have also frequently been moved with tractors to convenient points for unloading.

The Illinois Central has four heavy-duty tractors among its several other types and sizes of haulage equipment. The use of this equipment and the experiences with it are similar to those on other roads, but the report brings up the question of maintenance. A large tractor was put in service in November, 1924. This machine has been worked regularly since that date and, aside from a few accidents, the operating cost has been very small. Although the tractor has been in service for more than four years, it is still in good condition and, with proper care, should last several years longer, in the opinion of those operating it.

* * *

The Pennsylvania's "Golden Arrow" Eastbound Out of Chicago

# 1929 A Banner Year for Wabash

*Operating gross and net highest in history—Net after charges but slightly under 1926 total*

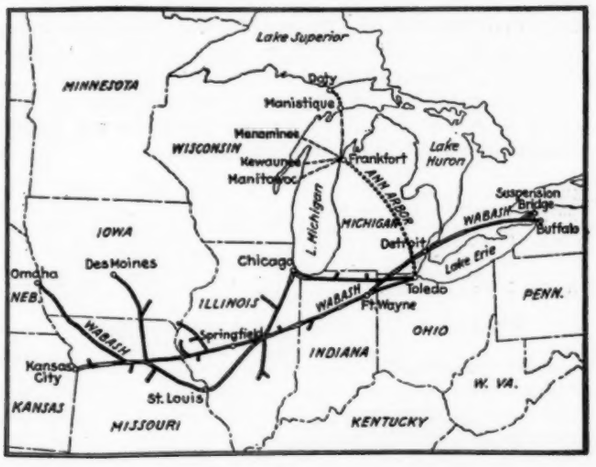
THE Wabash in 1929 had the best year in its history from a standpoint both of gross revenues and net railway operating income—and net after charges, $7,854,403, was but slightly less than the highest ever attained, i. e., $8,217,487 in 1926. Operating revenues of the Wabash proper in 1929 totaled $76,632,973, an increase of 7.8 per cent over 1928 and of 6.6 per cent over the highest previous year, 1926.

Revenue ton-miles in 1929 totaled 6,107,472,314, an increase of 9.88 per cent over 1928, which was the best previous year from a standpoint of freight traffic volume. Commodities which showed important increases in tonnage when compared with 1928 included wheat, bituminous coal, refined petroleum, iron and steel and automobiles. Total tonnage was divided among the various classifications of commodities as follows: Agricultural products, 14.43 per cent; animal products, 4.16 per cent; mine products, 36.84 per cent; forest products, 4.40 per cent; manufactures and miscellaneous, 36.29 per cent; and l. c. l. 3.88 per cent. The Wabash's freight traffic has grown steadily since the period of federal control—1929 ton-mileage being 34 per cent greater than that of 1920. The greater part of this increase has been in the category of manufactured goods, which made up almost 37 per cent of total tonnage in 1929 as compared with less than 28 per cent in 1920.

This growth has unquestionably been attributable in important degree to the growth of manufacturing, and of automobile manufacturing particularly, along the eastern portion of the Wabash's line. At the same time the growth in this high quality tonnage has been matched by commensurate improvements in service—the standard of which is clearly shown in the statistics given in Table II. An average freight train speed of 16.4 miles per hour and of 45.5 miles per car per day are indicative of the kind of service offered to patrons.

### Two-Thirds of Tonnage Received from Connections

Traffic of this character, of course, is not an unmixed benefit, since it entails a lighter average load per car (21.3 net tons in 1929) and tends to hold down the gross and net tons per train (1,709 and 634 tons respectively in 1929) to averages considerably less than they would be if a larger proportion of the tonnage were of heavy-loading character. The Wabash is also situated so that it has a heavy interchange business, about two-thirds of its tonnage being received from connecting lines. This naturally results in comparatively large expenses for hire of freight cars, the debit balance in this account for 1929 being $2,415,192, an increase of 11 per cent over the preceding year. The average revenue per ton-mile in 1929 was 1.0446 cents and the average haul of revenue freight, 248.69 miles.




**The Wabash and Ann Arbor**

Passenger revenues in 1929 decreased 2.12 per cent when compared with 1928, but mail and express revenues increased more than sufficiently to counteract this decrease. Passenger revenues in 1929 totaled $7,042,372, equivalent to approximately 9 per cent of total operating revenues, so that the road is plainly not highly dependent upon passenger traffic for its prosperity. On the other hand, the deceleration of the rate of decrease in this class of traffic is none the less gratifying, the aforementioned decline of 2.12 per cent in 1929 passenger revenues from the preceding year comparing with a decline of 11.76 per cent from 1927 to 1928.

Operating expenses in 1929 increased 7.37 over the preceding year. The increase in maintenance of way expenses was 8.18 per cent; in maintenance of equip-

**Table I—Wabash Operating Results, Selected Items, 1916 to 1929**

| Year | Mileage | Revenue ton-miles (thousands) | Revenue passenger-miles (thousands) | Revenue per ton-mile, cents | Total operating revenues | Total operating expenses | Net operating revenues | Operating ratio | Net railway operating income | Net after charges |
|---|---|---|---|---|---|---|---|---|---|---|
| 1916 | 2,519 | 4,440,861 | 364,775 | .6217 | $37,721,104 | $24,874,417 | $12,846,687 | 65.94 | ..... | $5,390,908 |
| 1917 | 2,519 | 4,785,375 | 388,460 | .6132 | 40,471,999 | 28,468,896 | 12,003,103 | 70.34 | ..... | 4,227,105 |
| 1918 | 2,513 | 4,615,817 | 399,154 | .7474 | 48,246,411 | 40,223,947 | 8,022,464 | 83.37 | $3,714,172 | 2,635,285 |
| 1919 | 2,476 | 4,027,016 | 370,888 | .8754 | 48,847,086 | 44,587,030 | 4,260,056 | 91.28 | 864,445 | 2,372,870 |
| 1920 | 2,473 | 4,566,144 | 371,437 | .9488 | 59,982,282 | 58,859,395 | 1,122,887 | 98.13 | 5,491,512 | 1,983,943 |
| 1921 | 2,473 | 3,888,949 | 294,216 | 1.1748 | 59,217,692 | 50,506,169 | 8,711,523 | 85.29 | 3,863,340 | 1,281,361 |
| 1922 | 2,473 | 3,930,797 | 269,830 | 1.1171 | 57,662,496 | 48,041,297 | 9,621,199 | 83.31 | 4,107,421 | 1,210,388 |
| 1923 | 2,477 | 4,673,212 | 294,369 | 1.1063 | 66,617,636 | 52,033,495 | 14,584,142 | 78.11 | 8,941,275 | 5,410,874 |
| 1924 | 2,490 | 4,920,974 | 284,539 | 1.0475 | 65,780,929 | 50,298,418 | 15,482,512 | 76.46 | 9,347,780 | 5,474,949 |
| 1925 | 2,524 | 5,233,547 | 297,204 | 1.0572 | 69,910,301 | 51,080,424 | 18,829,877 | 73.07 | 12,252,515 | 7,946,438 |
| 1926 | 2,524 | 5,376,861 | 294,281 | 1.0639 | 71,693,341 | 52,465,680 | 19,227,661 | 73.18 | 12,562,083 | 8,217,487 |
| 1927 | 2,524 | 5,089,310 | 266,924 | 1.0609 | 67,108,153 | 51,379,146 | 15,729,006 | 76.56 | 9,661,677 | 4,763,610 |
| 1928 | 2,524 | 5,558,198 | 242,161 | 1.0586 | 71,072,991 | 52,411,567 | 18,661,423 | 73.74 | 11,950,039 | 6,401,277 |
| 1929 | 2,524 | 6,107,472 | 240,316 | 1.0446 | 76,632,974 | 56,275,423 | 20,357,551 | 73.43 | 13,251,591 | 7,854,404 |

Standard return for operations during federal control or average net railway operating income for three years ended June 30, 1917, $5,826,810.

ment expenses, 9.37 per cent; and in transportation expenses, 4.48 per cent. The increase in maintenance of way expenses is attributable to an increase in rail laid, to a much heavier program of bridge renewals and a general effort to maintain the property at a higher standard. The increase in equipment maintenance expenses was due to a program of heavy repairs to freight cars and locomotives and to wage increases. Ratios of the more important expense items to operating revenues were as follows: Maintenance of way, 13.4 per cent; maintenance of equipment, 16.7 per cent; transportation, 36.5. The operating ratio was 73.4, as compared with 73.7 in 1928.

An insight into the company's maintenance of way policy in recent years is given in the following figures showing the work done in physical units:

| | 1929 | 1928 | 1927 | 1926 |
|---|---|---|---|---|
| Miles New 110-lb. Rail Laid | 137.1 | 109.5 | 136.2 | 118.5 |
| Number Cross Ties Laid in Main Track | 675,739 | 621,399 | 646,422 | 798,859 |
| Number Cross Ties Laid in Side Track | 190,593 | 237,654 | 218,918 | 267,115 |
| Number Sets Switch Ties Laid | 670 | 534 | 529 | 744 |
| Number Miles Track Ballasted | 39.6 | 6.6 | 14.3 | 19.6 |
| Number Miles Track Reballasted | 201.3 | 249.6 | 151.5 | 282.2 |
| Number Miles Ditching | 64.0 | 152.1 | 179.7 | 220.3 |

### Preferred Dividend Controversy Settled

Gross income in 1929, $15,174,478, was more than twice fixed charges. Net income, $7,854,403, was equivalent to $5.67 per share of outstanding stock, common and preferred. Dividends of 5 per cent were paid on the preferred only—both Class A and Class B. The dividend on the Class B was possible only after the United States Supreme Court reversed the decision of a lower court, which had held that the Class A stock was entitled to dividends in years when net earnings were conserved rather than disbursed as dividends. The capital liabilities of the company at the end of 1929 were made up of 52 per cent stock and 48 per cent long term debt. The corporate surplus was equivalent to 34 per cent of outstanding stock.

**Table II—Comparison of Selected Freight Operating Statistics**

| | 1929 | 1928 | Per cent of change Inc. | Dec. |
|---|---|---|---|---|
| Mileage operated | 2,497 | 2,497 | ... | ... |
| Gross ton-miles (thousands) | 17,772,466 | 16,403,725 | 8.3 | |
| Net ton-miles (thousands) | 6,597,019 | 6,142,037 | 7.4 | |
| Freight train-miles (thousands) | 10,397 | 9,503 | 9.4 | |
| Freight locomotive-miles (thousands) | 11,060 | 10,071 | 9.8 | |
| Freight car-miles (thousands) | 486,428 | 452,350 | 7.5 | |
| Freight train-hours | 634,740 | 585,223 | 8.5 | |
| Car-miles per day | 45.5 | 44.8 | 1.6 | |
| Net tons per loaded car | 21.3 | 21.2 | 0.5 | |
| Per cent loaded to total car miles | 63.6 | 64.0 | | 0.6 |
| Net ton-miles per car-day | 617 | 608 | 1.5 | |
| Freight cars per train | 47.8 | 48.6 | | 1.7 |
| Gross tons per train | 1,709 | 1,726 | | 1.0 |
| Net tons per train | 634 | 646 | | 1.9 |
| Train speed, miles per train-hour | 16.4 | 16.2 | 1.2 | |
| Gross ton-miles per train-hour | 28,000 | 28,030 | | 1.1 |
| Net ton-miles per train-hour | 10,393 | 10,495 | | 1.0 |
| Lb. coal per 1,000 gross ton-miles | 121 | 122 | | 0.8 |
| Loco.-miles per loco.-day | 84.4 | 75.3 | 12.1 | |
| Per cent freight locos. unserviceable | 19.4 | 17.8 | 9.0 | |
| Per cent freight cars unserviceable | 2.4 | 3.0 | | 20.0 |

Capital improvements in 1929 totaled $6,220,519 for roadway and structures and $4,618,826 for equipment, all but a few thousand dollars of the latter being represented by 2,035 new automobile cars. Among the roadway improvements undertaken in 1929 were the following: Yard improvements at Decatur, Ill., Oakwood, Mich., and Delray, Mich.; a new double track bridge over the Vermillion river at Danville, Ill.; protection against erosion of the Missouri river at several points in Missouri; a new concrete freight house at Detroit, Mich., and a new passenger station at St. Louis, Mo.; extension of automatic signaling; grade crossing elimination at several points and automatic crossing signal installations in fifteen cities. The Wabash joined with the Pennsylvania and the Pere Marquette in providing a modern terminal for perishable freight at Detroit and 50 modern freight locomotives and a car ferry were ordered for 1930 delivery.

### Aggressive Consolidation Policy

The Wabash under the leadership of its chairman, W. H. Williams, took aggressive steps in the direction of railway consolidation in 1929. The Interstate Commerce Commission's final plan of consolidation assigned to the proposed Wabash system all the lines which it sought permission to acquire and, moreover, added several other important lines, among them the Norfolk & Western and the Seaboard Air Line. An article on the system as originally envisioned, together with a map, appeared in the *Railway Age* of July 6, 1929, page 17. A map of the system as constituted according to the plan of consolidation of the Interstate Commerce Commission appeared with the issue of January 25, 1930.

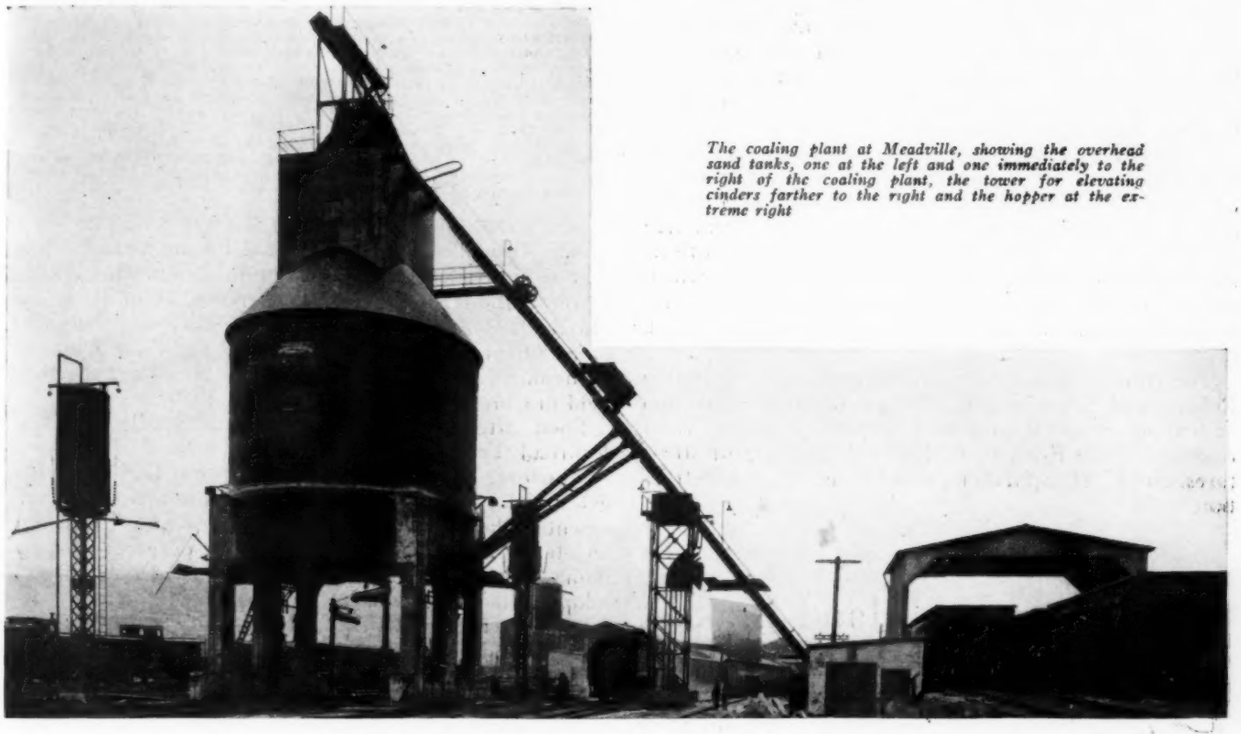
# Government Barge Line Operated at Loss in 1929

WASHINGTON, D. C.

THE operations of the Inland Waterways Corporation in the year ended December 31, 1929, resulted in a net loss of $354,048, according to its annual report made public on April 8, making its debit balance as of the end of the year $489,748. The lower Mississippi river division had a net income from operations for the year of $362,663, and the Warrior River Terminal Company a net income of $1,434, but the upper Mississippi river division had a net loss of $319,945 and the Warrior division a net loss of $152,446, making the total net loss from operations $108,294, while there was a loss of $306,065 on property and equipment retired and the expenses of the Washington office were $60,394. Interest earned amounted to $119,386 and there were adjustments of $1,318 applicable to prior periods.

These figures appear in the report of the secretary-treasurer to General T. Q. Ashburn, chairman and executive. General Ashburn's report to the Secretary of War does not mention the loss, although he devotes several pages to an explanation as to why the government barge line did not carry as much freight in 1929 as in 1928, as to which he says there shoud be no concern, and points out that from 1925 to 1929 the average net income of the corporation has been $81,892 per annum. The total tonnage carried in 1929 amounted to 2,114,470, as compared with 2,245,849 tons in 1928, but the expenses were greater than in 1928. Pointing out that there has been an increase in private common-carrier use of the river, General Ashburn says the corporation has been fulfilling the purpose for which it was created by encouraging and assisting the increase of private operation on the river and that "we may lose more and more freight as private competition increases but . . . the government's final success in business will be written when it is driven out of business." Difficulties because of low water at times and floods at other times are mentioned as affecting the expenses, and, in addition to the freight taken by other water carriers, it is stated that by reason of low rates made by the railways the corporation was compelled to lower its grain rates and has lost most of its bauxite ore movement northbound.

# An Efficient Coaling Plant



*The coaling plant at Meadville, showing the overhead sand tanks, one at the left and one immediately to the right of the coaling plant, the tower for elevating cinders farther to the right and the hopper at the extreme right*

IN the construction of a 1,000-ton capacity locomotive coaling plant in conjunction with sand, cinder, and water facilities by the Erie, at Meadville, Pa., several new features were developed in the design of the station and also in the arrangement of the various facilities. For years it has been the common practice to provide coal, sand, cinder and water facilities without giving much attention to their working relation to each other. The various facilities were located in the terminal as space was available and as a result it sometimes developed later that they could have been arranged to better advantage from the standpoint of locomotive operation.

In the coaling plant at Meadville, all of the facilities have been combined and arranged at one location, so that the locomotives may be coaled and serviced with one spotting and with the least possible delay. Combined in the plant, is the most recent equipment for delivering a good grade coal to locomotives.

To provide against a possible tie-up of the facilities and consequent delay to locomotives, two receiving tracks are provided whereby coal is delivered to a receiving hopper, 25 ft. long, from which it is transferred, by duplicate sets of hoisting equipment, to the overhead storage pocket of 1,000-ton capacity, at the rate of 125 tons an hour.

### Magnet Removes Iron

The use of mechanical stokers on locomotives makes necessary the delivery of a sized, clean coal. Furthermore, so many locomotive failures have been caused by the interference of "tramp" iron, such as coupling pins and splice bars, with the operation of the stoker that it has become advisable to equip fuel stations with means of separating it from the coal.

To meet this requirement, a Cutler-Hammer magnetic separator has been installed in the plant at Meadville, by means of which the coal passes over a feeder belt operating on pulleys, one of which is magnetized, as it is being conveyed from the bucket to the spiral which lowers it to the storage pocket. The "tramp" iron clings to this pulley and is conveyed to a receptacle into which it drops, after passing out of the magnetic field. A by-pass chute has also been provided to enable the coal pocket to be filled without running the coal over the separator, if desired. Arrangements have also been made for the future installation of a 36-in. coal crusher which, since it will be located directly beneath the separator, may also be by-passed.

### Coal Spiraled to Bin

To prevent excessive breakage of coal by dropping it from the separator to the storage pocket, a spiral lowering chute is provided, which delivers the coal from the separator to the pocket without a direct drop. In order to avoid the possibility of the clogging of the coaling gates or the skimming of the coal, the plant is equipped with Roberts and Schaefer sidecut, non-skim apron fixtures. These fixtures are positive in operation and easily controlled. The aprons are raised and lowered by a special chain hoist and they have a lateral sway motion to enable tenders to be filled from one spotting.

The coaling plant is of reinforced concrete throughout and is equipped with Simplex automatic elevating equipment operated by Roberts and Schaefer silent, enclosed-gear, automatic electric hoists. The buckets operate on heavy, single I-beam tracks which are easily repaired and maintained. The plant is accessible in all respects and all unnecessary housings have been omitted.

In connection with the plant and at the proper distance for Erie locomotives, an "N. & W." type, two track cinder handling plant has been installed. So that while a locomotive is being coaled, it may also be discharging its cinders. The cinders are dumped from the engine into 12-ft., cast iron hoppers under the tracks, from which they are in turn delivered to a bucket of 80 cu. ft. capacity, and are then conveyed to a tower, from which they are delivered to a car on a track 37 ft. from the nearest engine track.

Located between each pair of eastbound and westbound tracks, is a dry sand tank with a capacity of 400 cu. ft., with sanding track valves and spouts to enable sand to be placed in the sand dome of the locomotive while it is being coaled. Dry sand is furnished to these overhead tanks from a sand-drying plant nearby, which utilizes two perfection cones, stove dryers and a standard sand drum and has storage space for 2150 cu. yd. of wet sand.

The entire installation was designed and built by the Roberts and Schaefer Co., Chicago, under the direction of and in co-operation with George S. Fanning, chief engineer of the Erie; F. A. Howard, engineer of structures, and C. H. Splitstone, superintendent of construction.

# Controversy on Hand Brakes

DEVELOPMENTS regarding the hand brakes that should be used by the railways have received an unusual amount of attention from railway officers within recent months and caused a large amount of controversy among railway employees, especially between officers of the Brotherhood of Railroad Trainmen, on the one hand, and officers of the Order of Railway Conductors, on the other hand. The controversy was started by an article entitled, "Safe and Efficient Hand Brakes," which appeared in the January issue of "The Railroad Trainman," the monthly magazine of the Brotherhood of Railroad Trainmen. This article contained the following statement: "These bodies (i. e., the General Chairmen's Associations and the National Legislative Conference) unanimously passed resolutions endorsing the Ajax hand brake and urging that steps be taken at once to extend its use to cars owned by all railroads." In the April issue of "The Railroad Trainman," page 276, there appears the following statement: "The word 'Ajax' appearing in the last sentence, paragraph 2, page 9, volume 47, issue No. 1, of the 'Railroad Trainman' for January, 1930, should have read 'one.'" This statement refers to the sentence already quoted from the article in the January issue of the magazine and is apparently intended as a retraction of the assertion that the Ajax hand brake was specifically endorsed in the resolutions adopted by the General Chairmen's Associations and the National Legislative Conference.

Railway officers throughout the country are being urged by representatives of the Brotherhood of Railroad Trainmen to adopt the Ajax hand brake, and have been given to understand that it has been endorsed specifically by the labor organizations, and, therefore, it seems desirable, in fairness to all concerned, and especially for the information of railway officers, that a summary of the facts as to what has actually occurred should be published.

At the fifth triennial convention of the Brotherhood of Railroad Trainmen, held early in May, 1928, the following resolution was unanimously adopted:

"WHEREAS, our past conventions have gone on record against the ratchet handle brake and for an improvement in hand brakes, and

"WHEREAS, The American Railroad Association has recently pointed out in bulletins and circulars that all classes of accidents, with the exception of those due to hand brakes, have shown a decrease, and

"WHEREAS, Thousands of the members of this Brotherhood are being injured and killed annually by hand brakes which require the use of both hands and feet in addition to a brake club to operate, therefore be it

"RESOLVED, That this Convention take a firm position in favor of equipping all freight cars, both new and old, with a hand brake that can be applied and released without the use of a club and can be operated with one hand only, leaving the other hand and both feet free to at all times protect the man operating the brake, and be it further

"RESOLVED, That all Local Committees and General Committees and all Grand Lodge Officers be and are hereby instructed to use all means at their command to bring this about."

Similar resolutions, also without reference to any specific hand brake, were adopted by the Grand Division of the Order of Railway Conductors in May, 1928; by the National Legislative Conference, B. of R. T., in May, 1929; and by the General Chairmen's Associations, O. of R. C. and B. of R. T., and the Chicago Switching Association, B. of R. T., at a joint meeting held in Chicago, July 10, 11 and 12, 1929.

Soon after the publication of the article in "The Railroad Trainman," various local bodies of railroad conductors, including Mission Division 470, Los Angeles, Cal., protested vigorously that the article misrepresented the facts; that the resolutions quoted did not as stated in the article, endorse a specific brake by name; that the attempt to coerce railroad officers into adopting this one brake as standard would actually delay the general adoption of safe and efficient hand brakes; and that the conductors favored an open field for safe and efficient hand brakes that can be set and released with one hand without the use of a club. These sentiments were incorporated in a set of resolutions, one copy of which was sent to President E. P. Curtis (O. of R. C.), one copy to President A. F. Whitney (B. of R. T.), and one copy to the *Railway Age* with the request that it be published. This was done, the resolutions appearing on page 688 of the *Railway Age* issue of March 15.

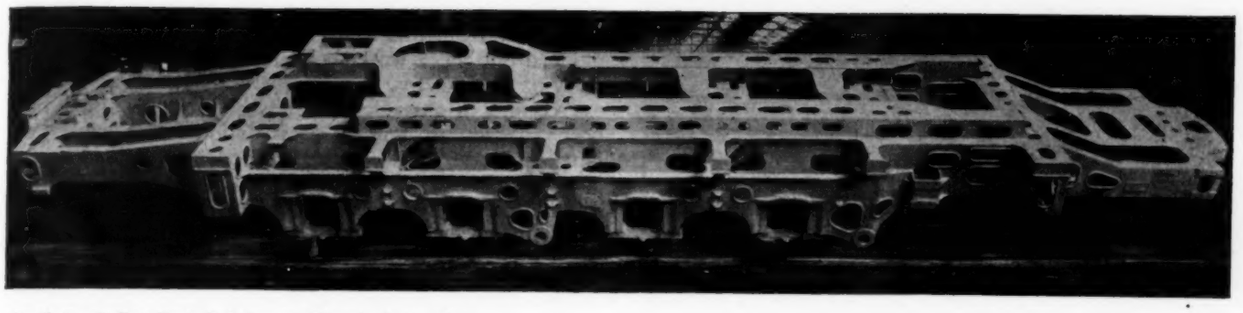
Subsequently, an officer of the Order of Railway Conductors in California, and a member of the California Legislative Board, which represents the four brotherhoods in that state, wrote, saying that the resolution adopted by Mission Division 470 expressed the feelings of the men in train and yard service, and requesting that the matter be given additional publicity.

"My object in taking this matter up with you," he said, "is that it may be given due and proper publicity, editorially or otherwise. It is not our desire to have any adverse action taken, in so far as the Ajax hand brake is concerned, but we do seriously object to the sponsoring of any proprietary devices in any such manner.

"The intent of the sponsors of the resolutions, and the intent of those voting for them was to secure just what the resolutions called for, that is, a safe and efficient hand brake that can be applied and released with one hand without the use of a club, and not to endorse or advertise any make of hand brake nor to close the doors to the best which is now, or hereafter may be, obtainable."

---

THE CHICAGO & EASTERN ILLINOIS is conducting a contest until April 30, for a name for a new train which it plans to establish between Chicago and St. Louis. The train will leave Chicago in the afternoon and will arrive in St. Louis in the evening, while returning, it will leave St. Louis in the morning and arrive in Chicago in the early afternoon.



*An Integral Cast-Steel Bed for an Electric Locomotive*

# The Steel Founders' Contribution to the Railroads

*Abstract of a paper presented before the March meeting of the New York Railroad Club*

**By W. M. Sheehan**

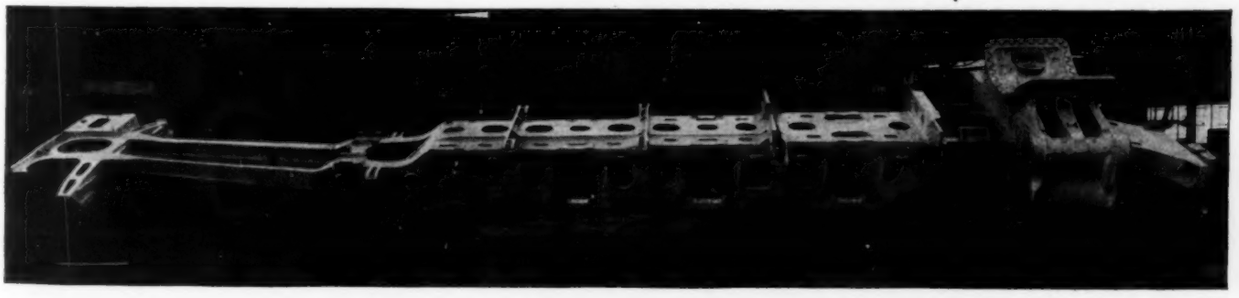
Sales Engineer, General Steel Castings Corp., Granite City, Ill.

THE remarkable development of the steel foundry art in America which has produced more sturdy and substantial foundations for locomotives, tenders, passenger cars and freight cars is the result of the application of engineering principles and the constant vigilance and patience of the steel founder. Much of the arduous manual work previously associated with foundry practice has been eliminated. This has been largely brought about through the use of specially designed equipment for handling material for cleansing, milling and distributing sands, together with the use of molding forms, molding machines, sand slingers and core-making machinery.

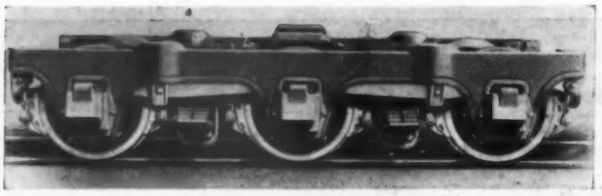
Some of the earlier uses for steel castings in railroad work were as substitutes for iron castings. As there was no precedent at that time to follow except the practice of the iron founder, the results, as in all new industries, left much to be desired. The pioneers who introduced large steel castings for railroad service sought every opportunity for improvement and, as a result of unremitting effort, the steel foundry business occupies a place today in railroad work which is remarkable considering that it is but little over 35 years since the use of steel castings in this field was first begun.

To appreciate the rapid strides which the use of cast steel has made in railroad work, it would be interesting to review car and locomotive construction as it was in 1893, just previous to the beginning of the cast steel era. Freight cars had arch-bar trucks and wooden truck bolsters; their underframes were of wood with steel-plated wooden body bolsters. Passenger cars had wooden trucks and wooden underframes with steel plates as reinforcing pieces. There were no steel castings on the locomotives. All railroad couplers were of malleable iron.

The need for heavier cars and locomotives was being agitated. It was not long before several companies were making cast-steel truck bolsters and their use became quite general. Shortly following the initial application of the truck bolsters, cast-steel freight-car body bolsters were made and early in 1899 the first cast-steel double body bolster for passenger cars was made and applied to the sleeping car "Brienze" at the Pullman Company's St. Louis shops. This remained in use until the car was removed from service in 1917.



**An Integral Cast-Steel 4-8-4 Type Locomotive Bed**



A Six-Wheel Straight-Equalizer Passenger Truck of Cast Steel

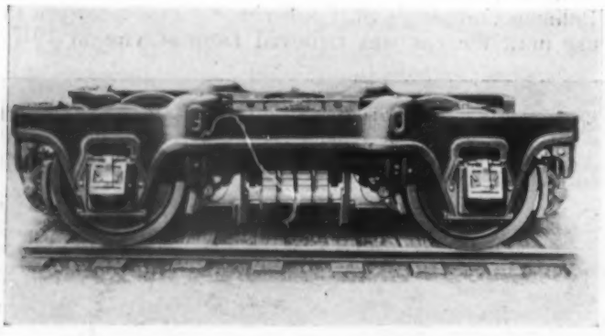
Although the bolster had travelled approximately one million miles, it was in excellent condition when removed.

The first cast-steel Andrews truck side frame for freight cars was made about 1900, and in 1901, the first Bettendorf frame with journal boxes integral was cast. The first steel castings used in locomotives were driving-wheel centers. The first record we can find of steel centers was in the latter part of 1895 when some were applied on the St. Louis Southwestern. The first form of locomotive foundation consisted of two forged wrought-iron bar frames, which carried the boiler and the cylinders, and had a few forged cross ties to keep the axles in a parallel position. In the middle nineties, railroad men and locomotive builders who had been observing the progress in steel making, bethought themselves of the possibilities of cast-steel main frames. The first ones applied were on a six-wheel switcher built by the St. Louis Southwestern in its shops in 1896 and from this date began the move toward the modern locomotive as we know it today.

The first cast-steel trucks to be made for passenger service were applied to two cars on the Atchison, Topeka and Santa Fe in 1904. They were of the four-wheel type and the entire truck frame was in one piece. The initial application of cast-steel six-wheel trucks to a passenger car was made by Pullman Company on one of its sleepers in 1905. These trucks used the M.C.B cast-iron pedestals with drop equalizers and had outside side bearings.

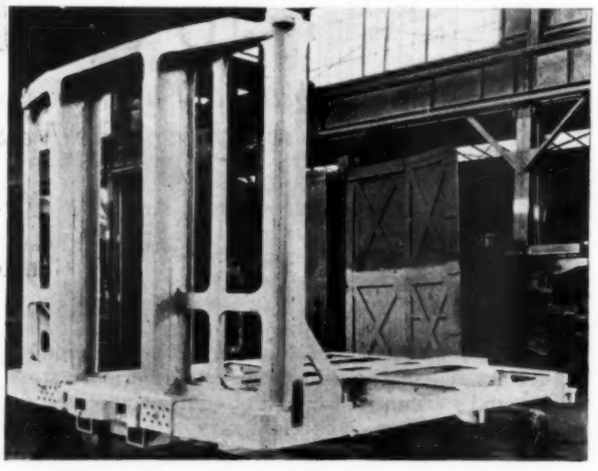
About 1905 demand was being made for stronger passenger equipment and the combined double body bolster and platform was designed to meet the new requirements. This casting joined the double body bolster by means of longitudinal members with the endsills, platform and buffing sills. One of the illustrations shows an anti-telescoping end construction as applied to a lot of new baggage cars now being built.

The first cast-steel tenderframes were made early in 1907 and the main portion was in three castings. These three pieces included the center sills, bolsters, needle beam and draft housing. Channel side sills and plate end sills were fastened to these castings which were connected together at keyed machined joints. The development from this first cast-steel tender frame to the modern one-piece water-bottom frame is an interesting story of constructive thinking, good engineering and the overcoming of obstacles. While the limit has apparently been reached in tender construction using six-wheel trucks several roads during the past year have given consideration to the economic possibilities of a 30,000 gal. tender to be carried on two eight-wheel trucks. Both the larger tender and truck are entirely feasible from a manufacturing standpoint and designs are ready. The next move awaits the result of the economic study.



A Four-Wheel Straight-Equalizer Passenger-Car Truck of Cast Steel

The advances which had been made in the steel foundry art and the low attendant upkeep expense of one-piece cast-steel trucks and platforms on passenger cars and of tender frames and tender trucks logically suggested similar results by the application of the same principle on the locomotive proper. The results in this line were the one-piece trailer-truck frame, applied to a Pennsylvania Atlantic type locomotive in 1912, the one-piece cradle and the two-wheel Delta trailer truck.



Cast Steel Anti-Telescoping End Construction for Baggage Cars

From the inception of the cradle those who were developing it constantly had in their mind the great possibilities that would accrue in locomotive construction by the formation in one piece of the entire frame structure, but this step awaited improvements in the molding art and required special machinery to take care of the difficult operations involved in machining such a huge unit. The success of an electric locomotive bed on the New York, New Haven & Hartford gave an impetus to a similar structure for steam locomotives and finally a design was developed which it was felt could be offered to the railroads as an improvement on existing construction. Further developments came rapidly. In 1926 an eight-wheel switcher was built which incorporated in one piece the entire locomotive frame construction, including pilot beam cylinders, frames, cross ties, equalizer and brake attachments as well as connections for the motion work and guide-yoke ends.

There is under construction at the present time what will be, when completed the longest and heaviest cast steel bed so far built. It will be applied to the 4-12-2 type locomotives recently ordered by the Union Pacific. It will be 60 ft. 3 in. long and will weigh 62,000 lb. when finished. What was uniformly the deepest and widest and certainly the most complicated casting so far made forms a part of each of the units of a

Canadian National oil-electric locomotive. This bed, shown in one of the illustrations, is 46 ft. 1¾ in. long, 9 ft. 11 in. wide and 5 ft. 1 in. deep and weighs 40,000 lb. It embodies the entire locomotive foundation below the cab line.

The success which the use of large steel castings has met in locomotives and cars indicates very clearly that the freight-car underframe of the future will be an integral steel casting. Cast-steel foundations for cars and locomotives, while resulting in great direct maintenance savings in the integral structures themselves, have attendant savings which are of even greater value. In cars the brake rigging and the superstructure will also have longer life when the foundation possesses freedom from distortion and disintegration. In locomotives the bed reduces rod and machinery trouble, preserves alignment of the wheels, reduced tendency to hot driving boxes and, by providing a foundation possessing in itself great strength, relieves the boiler of much of the work which it is compelled to do where a less substantial frame structure is used.

The advancement which has been made in the steel-foundry art in the past decade has been truly remarkable. In view of this advancement, is it unreasonable to predict that the next ten years will record a progress which will be greater even than has occurred in all of the 35 years of the industry to date?

# Yielding Positive Barrier for Highway Crossings

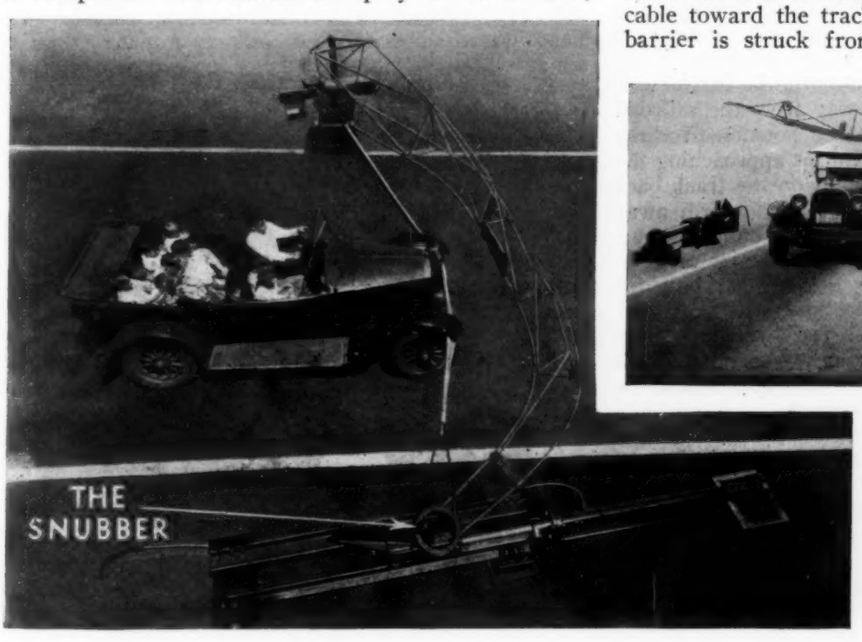
AN entirely new type of railroad crossing gate, designed to provide a positive, yet yielding stop for highway vehicles at railroad crossings during the approach or passing of trains, has been developed by the Franklin Railway Supply Company, Inc., New York City. The outstanding feature of this new gate, or barrier, which is known as the Highway Guardian, is its yielding character, which will allow a vehicle to be brought to a gradual but positive stop, without injury to the gate, the highway vehicle, or its occupants. The reaction set up by the barrier and, therefore, the effect on a vehicle or its occupants, is proportional to the force at which the barrier is struck, but, it is said, that even striking the barrier with an automobile at a speed as high as 40 miles an hour, will cause little, if any, damage to the car and no injury to its occupants.

The new gate operates up and down across the highway, much the same as a single-arm crossing gate, and consists essentially of a barrier cable carried across the highway by a barrier arm; a pedestal which supports the pivoted end of the barrier arm and houses the mechanisms for its operation; and a hydraulic snubber device over which the free end of the barrier arm locks when the arm is in a lowered position across the highway.

The barrier arm, carrying the cable barrier, is a relatively light steel skeleton structure, hinged at one end on a pivoting base mounted on the pedestal. The arm is bowed outward toward the track and carries the cable barrier in a taut position from its pivoted end to its free end in the form of a cord to the arm bow. The cable barrier itself, consists of two strands of steel cable, brought together and covered by a canvas band. Connection of the cable to the free end of the barrier arm is over a steel ring, which, when the arm is in its lowered position, is engaged with a post or hook on the operating mechanism of the snubber.

The pedestal mounting of the barrier arm is a cast steel case, securely fixed to the foundation provided, with housings on top for ball trunion bearings on which the barrier arm operates. The interior of the pedestal is used to house the operating and control mechanisms for the barrier.

The yielding feature of the barrier is provided largely through the snubber device, which is located on the opposite side of the road from the pedestal carrying the barrier arm. This device is essentially a hydraulically cushioned ram, consisting mainly of a heavy steel frame mounted on a suitable foundation, and a crosshead connected through a piston rod to a hydraulic dash pot. The crosshead carries an upright post or hook, which is engaged by the ring at the outer end of the barrier arm when the arm is in its lowered position. This post is of such shape that the ring of the barrier arm locks over it when there is pressure on the barrier cable toward the track, but is free to slide off if the barrier is struck from the opposite direction. As a



**Above—The Barrier is Carefully Balanced to Prevent Damage if Lowered on a Vehicle**

**Left—Striking the Barrier When Traveling at a Rapid Rate**

vehicle forces its way into the barrier, the cushioning action of the snubber comes into play, and, owing to special features of the design of this device, the resistance set up by it is increased in proportion to the impact of the vehicle striking the barrier. As the barrier is raised after being struck, the snubber crosshead and its engaging post is returned to its normal position by hydraulic pressure built up in the snubber cylinder by the operating mechanism.

Foundations for the two principal units of the Highway Guardian, the pedestal and the snubber, vary in design with different locations of the barrier, but they must be of sufficient size and stability to withstand the greatest force which might be brought upon them. In order to insure suitable foundations, drawings and specifications for the foundations are furnished with the barriers for each particular installation.

The new barrier can be arranged for automatic, semi-automatic or manual operation, the operating mechanisms being more or less the same in each case and including a motor-driven hydraulic pump, a hydraulic cylinder and piston for raising the barrier arm, a magnet and pilot valve for controlling the pump motor, a hydraulic reservoir, a relief by-pass to control the pressure in the hydraulic cylinder, and such other equipment as electrical switches, relays, etc.

As arranged for automatic operation, the movement of the barrier arm is controlled through suitable track circuits, the arm lowering automatically as a train enters the prescribed danger zone in either direction on any track, and raising automatically when the train has left the danger zone. Several important features incorporated in the design of the barrier prevent damage to vehicles or to the gate, caused by its automatic operation up and down across the highway. In the first place, the barrier arm lowers itself gently, with such audible or visible warnings as may be provided, and, furthermore, the arm is so balanced that a pressure of five pounds is sufficient to arrest its downward motion. Similarly, the arm can be arrested in its upward motion by a relatively small pressure, so that it will not damage a vehicle if it should become engaged with the vehicle as it raises.

Through the pivoted connection of the arm at the pedestal, the barrier arm can be made to swing parallel with the road in either direction before it engages the snubbing device, which prevents damage to it or to a vehicle in case it is struck by a vehicle in either direction when being lowered. Furthermore, the barrier can be swung in a horizontal plane away from the railroad track, even though it is in its locked position over the snubbing post for opposition to vehicles approaching the track, thus allowing a vehicle caught on the track back of the lowering barrier to push the barrier arm away from the track and escape from the danger zone. After a vehicle has thus escaped, the barrier arm returns to its locked position over the snubber post for opposition to vehicles approaching the track.

A stop sign and two red lights form regular equipment furnished with the barrier, but any combination of audible or visible signals can be installed in connection with the barrier as additional warnings.

---

THE NATIONAL RAILROAD OF HAITI operated at a loss of $26,616 during the fiscal year ending September 30, 1929, according to Department of Commerce reports. Revenues were $116,892, while expenses totaled $143,508. In addition the government appropriated $212,800 for interest and amortization of railroad bonds, an increase of $9,352 over the 1927-1928 appropriation for the same purpose.

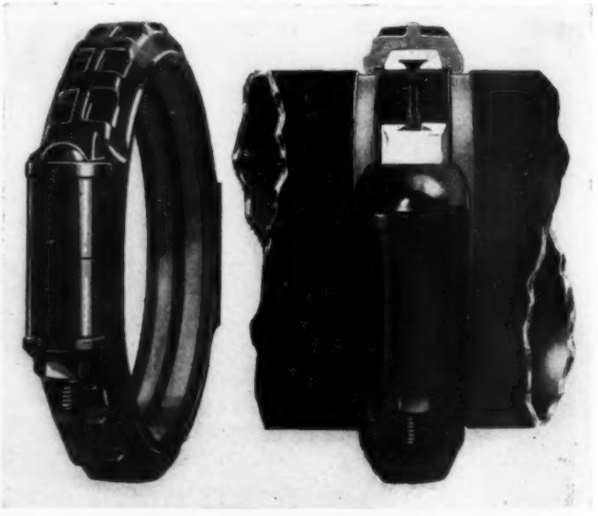
# A New Flexible Pipe Coupling

A NEW type of pipe coupling, for which many claims are made, is being manufactured by the Victaulic Company of America, New York City, for all classes of air, water, oil and gas lines, whether of steel, wrought iron or cast iron pipe. The new coupling consists of two half-housings of malleable iron, which are keyed into grooves in the ends of adjacent pipe sections, a leak-proof liner ring of special composition, and two bolts to hold the housing parts in place over the liner. The assembly of the new coupling involves only the placing of the liner ring over the adjoining pipe ends and the bolting of the two half-housings together over the ring.

One of the most interesting features of the coupling is the liner, which is of such shape and resilience that it maintains continuous contact pressure around the pipe, regardless of the expansion opening at the pipe ends or whether there is pressure or a vacuum in the pipe line. This liner is centered automatically and held securely in place by the housing.

Keying of the pipe sections together is accomplished by projecting flanges around the sides of the housing, which fit into the grooves made in the pipe ends; the grooves replacing the threads or other means of connection in other types of joints. The groove made in the pipe end is of less depth than the standard pipe thread, and is of such width that, in the assembled joint, there is enough clearance between the sides of the groove to allow considerable flexibility under pressure or vacuum and for contraction and expansion of the adjoining lengths of pipe over a wide range of temperature. The grooved pipe is available at all pipe mills and is less expensive than threaded pipe.

Numerous installations of Victaulic couplings have been made throughout the country in lines of pipe for air, water, gas and oil, ranging from ¾ in. in diameter to 30 in. in diameter. The advantages claimed for this type of construction include lower cost, facility of installation, leak-proof joints with maximum flexibility, elimination of special expansion joints and bends, easy removal of pipe sections without disturbing other pipe lengths, and reduced maintenance.



**Left—The Two-Part Housing of the Coupling Inclosing the Leak-Proof Liner. Right—A Part Sectional View of the Assembled Coupling**

# Railroad Ownership Inquiry

*Commissioner Eastman says unifications are being effected without supervision*

By Harold F. Lane

Washington Editor, *Railway Age*

WASHINGTON, D. C.

THE investigation by the House committee on interstate and foreign commerce of ownership of railway securities by holding companies, investment trusts and others, got under way on April 5 at a hearing at which Commissioner Joseph B. Eastman of the Interstate Commerce Commission explained why the commission had asked for such an investigation, in its annual report. Incidentally he gave a detailed statement of the holdings of the Alleghany Corporation, controlled by the Van Sweringen interests, and the Pennroad Corporation, organized by officers of the Pennsylvania, and as the activities of those two companies and allied interests were the chief reasons for the undertaking of the inquiry to which the committee is planning to devote a year or more, he probably furnished within an hour a large part of the pertinent information which it is seeking, except the answer to the question what should be done about it.

The investigation is being held with a view to possible legislation to bring holding companies within the regulatory powers of the commission and Senator Cousens and Representative Knutson have introduced resolutions to suspend the authority of the commission to authorize unifications until further act of Congress. The resolutions also propose to prohibit "unification" or "consolidation" through holding companies or otherwise without the approval of the commission, although they say nothing about the twilight zone of acquisitions of control or partial control.

Before undertaking the discussion of the advisability of legislation, however, the committee is undertaking probably the most comprehensive investigation ever made as to the ownership and control of the railroads, designed to bring out much more detailed information than the Interstate Commerce Commission has regarding the holding of railroad securities. One questionnaire addressed to the Class I railroads asks for complete detail as to the securities of the company and subsidiary and affiliated companies, as of December 31, 1929, and the number and voting power of the security holders of each class. In addition each company is asked to report by whom it is controlled and the manner and extent of such control, and also to give lists of the 30 security holders who, as to each class of securities, had the highest voting powers. The commission requires annual reports as to the 20 largest stockholders, and in most cases many of these are brokerage houses so that the reports do not reveal the real beneficial interest. The railroads are also asked to report their holdings in other companies. Another questionnaire is to be sent to a long list of holding and investment companies, asking them to report on their holdings of railroad securities. After the information has been obtained from the questionnaires it is planned to hold some hearings through sub-committees in various cities other than Washington.

Mr. Eastman, explaining that he desired to absolve his colleagues from responsibility for anything he might say, although he did not know that they would object to any of it, told the committee the commission feared that because of the acts of certain companies in acquiring control of, or large holdings in, various railways the government was in great danger of losing control of the process of railway unification. In some quarters the opinion is held that the commission lost much of its control over the situation by taking ten years before it was in a position to tell the roads, in its consolidation plan, how it thought they should be grouped into systems, but while some railroad men take the position that the more recent holding companies were organized largely for the purpose of keeping the stock of strategic roads out of the hands of "hi-jackers" and competitors until the commission is able to go through the protracted procedure necessary to obtain its authorization of a consolidation, including the valuation of the properties involved, Commissioner Eastman took the position that, through the medium of holding companies and otherwise, virtual unifications for all practical purposes can be and are being accomplished without coming under the supervision of the commission and he thought such a situation is not in the public interest.

The commission had held in 1921, in connection with the reorganization of the Denver & Rio Grande Western, that control of that road and the Western Pacific by the Western Pacific Railroad Corporation, a holding company, did not amount to a consolidation which would bring the transaction under its jurisdiction under section 5 of the interstate commerce act, and in 1926 the commission had recommended before the Senate committee on interstate commerce legislation to prohibit all railway unifications in any form except as authorized by the commission.

### Holding Companies Active

In 1929, Mr. Eastman continued, the situation became more acute as a result of the organization of the Alleghany Corporation and the Pennroad Corporation, and he read lists of their holdings as of February 24 and January 27, respectively, furnished by the companies to the commission, which not only confirmed many recent press reports but included additional hitherto unpublished data as to the extent of their activities.

He also quoted from an address by President W. W. Atterbury, of the Pennsylvania, showing that additional stock in the Boston & Maine and New York, New Haven & Hartford had since been acquired so that the Pennsylvania interests control at least 15 per cent of the voting securities of the New Haven and, in combination with the New Haven, nearly 50 per cent of those of the B. & M. Also, while it had been re-

ported that the Van Sweringen interests had recently acquired practical working control of the Missouri Pacific, Mr. Eastman showed that the Alleghany Corporation in February held 47.8 per cent of its stock and $24,000,000 of its convertible bonds and that it held 106,100 shares of Kansas City Southern, 20.8 per cent of its voting securities. He also showed that the Pennroad Corporation owned practically the entire outstanding stock of the Detroit, Toledo & Ironton, the Detroit & Ironton and the Canton Company, and about 73 per cent of the stock of the Pittsburgh & West Virginia, as to which there has been some mystery. He said that a certificate for 220,000 of the 222,930 shares of P. & W. V. controlled by the Pennroad is still in the name of F. E. Taplin and that there seems to be an agreement by which the Pennroad will not interfere with the management so long as it does nothing to jeopardize the Pennroad interests. The Pennroad was also shown as holding 402,119 shares of the common stock of the Seaboard Air Line, or about 15 per cent of its voting securities.

The formation of the Pennroad Corporation, Mr. Eastman said, had been preceded by the acquisition of stock of the Wabash and Lehigh Valley by the Pennsylvania Company, which is now the subject of a Clayton act proceeding before the commission, and the commission is now looking into the question of whether some of the acquisitions by the Pennroad may not involve violations of the Clayton act. He said that since the commission held that it had jurisdiction to pass upon an issue of securities by the Atlantic Coast Line Company, the holding company that controls the A. C. L. Railroad, on the ground that it has charter power to operate railroads, it seems to have become the custom to leave that power out of the charters of holding companies.

### Pennroad Corporation

He described the organization of the Pennroad Corporation in May, 1929, and the plan by which its voting powers are vested for 10 years in three trustees, W. W. Atterbury, Effingham B. Morris and Jay Cooke, directors of the Pennsylvania Railroad. He said that the Pennsylvania does not own a share of the Pennroad company nor does the latter own a share of Pennsylvania.

As of January 27, he said, the Pennsylvania Corporation held 150,101 shares of Boston & Maine or 17.2 per cent, and Mr. Atterbury had stated its holdings as of April 3 as 168,000 shares, while it held 98,800 shares of common stock and 1,200 of preferred stock of the New Haven, about 5 per cent, and Mr. Atterbury had been reported as saying the Pennsylvania held 204,000 shares. Also the New Haven, through the Boston Railroad Holding Company, controls 229,883 shares of Boston & Maine. The Pennroad also held 21,973 shares of the Canton Company, 44,722 shares of Detroit & Ironton common, 64,588 shares of Detroit, Toledo & Ironton common and 59,491 shares of preferred; 10,000 shares of Lehigh Valley; 120,000 shares (entire issue) of the National Freight Company; 222,930 shares of Pittsburgh & West Virginia; 4,485 shares, or about 45 per cent, of the Raritan River; 402,119 shares of Seaboard Air Line common; 10,000 shares of Southern common; 8,000 shares of Atlantic Coast Line, and some bonds and equipment notes of the D. T. & I. and D. & I. Mr. Eastman pointed out that the Pennroad appears to have complete control of the D. T. & I., although the plan assigns it to the Baltimore & Ohio, and he read a news item from the *Railway Age* of March 22 referring to a consolidation of some of the D. T. & I. and Pennsylvania facilities.

When Representative Wolverton, of New Jersey, interrupted the statement to ask if he inferred that the acquisition of New Haven stock by the Pennsylvania would be contrary to the public interest, Mr. Eastman said he was not attempting to discuss that question but to show that unifications are being brought about without the finding by any public body as to whether they are in the public interest which Congress had contemplated in the transportation act. When pressed further by the Congressman he said that a good deal of sentiment had been expressed in New England against trunk line control of New England railroads and pointed out that although the Boston & Maine and New Haven were once separated under the anti-trust law, we now apparently have a situation where the New Haven and one of its stockholders have nearly 50 per cent control of the B. & M. In reply to Representative Beck, of Pennsylvania, he said he understood that the New York Central formerly had about the same amount of New Haven stock as the Pennsylvania Railroad, but that the Pennsylvania and Pennroad together now have about 15 per cent.

### Alleghany Corporation

Mr. Eastman reviewed briefly the efforts of the Van Sweringen interests to unify the Nickel Plate, Chesapeake & Ohio, Hocking Valley, Erie and Pere Marquette, which resulted only in an authorization for the C. & O. to acquire control of the Pere Marquette, and said that nevertheless it is common knowledge that all of these roads are under a common control now made effective through a series of holding companies, including the Alleghany Corporation, the Chesapeake Corporation, the Virginia Transportation Company, the Special Investment Corporation, the Vaness Company, the General Securities Corporation, the Pere Marquette Corporation, the Nickel Plate Securities Corporation, the Clover Leaf Company, and the Western Company.

He said he did not know the exact present status of some of these companies or how the control is held, but had fairly recent information as to the Alleghany, Chesapeake and Virginia companies. The common stock of the Alleghany is widely distributed, and the Van Sweringen interests owned over 1,650,000 shares out of 4,152,540, less than a majority, but it is clear that O. P. and M. J. Van Sweringen dominate it, he said. As of February 24 it held 85½ per cent of the stock of the Buffalo, Rochester & Pittsburgh, under contract for sale to the Baltimore & Ohio; 8,500 shares of Atchison, Topeka & Santa Fe common; 93 shares of Chesapeake & Ohio common; 1,267,800 shares of Chesapeake Corporation common, (70.4 per cent of its voting shares); 215,000 shares of Erie common, (7½ per cent of its voting shares); 234,800 Pittston Company rights; 115,000 shares of Great Northern preferred; 106,100 shares of Kansas City Southern common (20.8 per cent); 11,182 shares of Lehigh Valley Coal & Navigation Company common; 7,215 shares of New York Central common; 167,100 shares of New York, Chicago & St. Louis (49.6 per cent); 42,400 shares of Pere Marquette common (6.2 per cent); 54 shares of Wheeling & Lake Erie prior lien stock; 522,600 shares of Missouri Pacific common and 216,500 shares of preferred, 47.8 per cent, and 24,000,000 of M. P. convertible bonds. The Chesapeake Corporation held 807,935 shares of Chesapeake & Ohio common and 149 shares of its preferred (54 per cent), and 27,500 shares of Pere Marquette common (4 per cent).

The Virginia Transportation Company, whose stock is owned by the C. & O., held 516,400 shares of Erie common, 135,605 shares of Erie first preferred and 50,495 shares of Erie second preferred, (24.6 per cent) and 350,250 of Pittston Company rights.

Mr. Eastman remarked that the Alleghany Corporation apparently has control of the Missouri Pacific, although at the hearings on the tentative consolidation plan no one advocated that the Missouri Pacific be joined to the Erie, Nickel Plate or C. & O. and that many people from the Southwest advocated that the southwestern lines be not carried through to Chicago, but should terminate at Kansas City or St. Louis. Mr. Eastman also mentioned two national holding companies which he said had played an important part for many years, the Atlantic Coast Line Company, which owns 30 per cent of the stock of the A. C. L., which in turn owns a majority of the stock of the Louisville & Nashville, and the Western Pacific Railroad Corporation, which controls the Western Pacific and has a one-half interest in the D. & R. G. W., having sold one-half to the Missouri Pacific. He also referred to the Pennsylvania Company, controlled by the Pennsylvania, the Delaware & Hudson Company, now a holding company controlling the D. & H. Railroad and the D. & H. Coal Company and having liquid assets of about $50,000,000; to the large holdings of the Union Pacific in other roads, and to various subsidiary companies owned by railroad companies for special purposes.

As to the investment trusts and trading companies included in the resolution authorizing the investigation, he expressed doubt whether they are important factors so far as railroad control is concerned, except possibly in combination with banking interests. He mentioned the New York Investors, Inc., which owns 135,000 shares of St. Louis Southwestern stock of which the Kansas City Southern was required to divest itself, the Adams Express Company, which had large holdings of railroad stocks, and the U. S. and International Securities Corporation which on December 31 held 41,400 shares of Chicago, Rock Island & Pacific and 51,000 shares of St. Louis-San Francisco. He told the committee that the commission has no authority to supervise investments of railroads so long as they do not involve control.

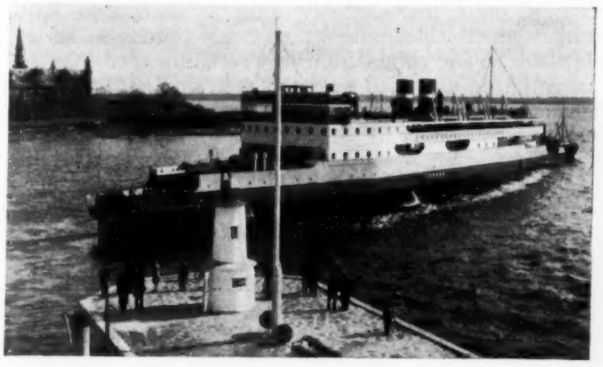
Commissioner Eastman continued his discussion of the activities and possible activities of holding companies on April 9. He said that if a holding company is plainly the creature of a railroad subject to the act and under its control the commission might be held to have jurisdiction over an acquisition by the holding company as the indirect act of the railroad. He also pointed out that there are two views as to whether the commission would have jurisdiction over a unification effected under state laws and not unlawful under the anti-trust laws, because the language in the act giving the commission jurisdiction over unifications is not in the form of a prohibition, but expressed the opinion that now that it has issued its consolidation plan its consent would be necessary to a unification even under state laws. He pointed out that the commission is the agency for enforcing the Clayton law in the first instance and that it covers the acquisition by a holding company of control of two competing railroads but said that there is a question as to whether it would cover such a case as the acquisition by the Pennroad Corporation of stock in a carrier competing with the Pennsylvania. However, he said, the Clayton act applies after the event and the procedure required under it is rather long drawn out.

Mr. Eastman pointed out that the holding company problem is by no means new but that the commission has faced it in various forms since 1906 and has at various times made recommendations to Congress that it be given power to extend its regulatory powers over their activities. In 1913, he said, the commission had recommended that railroads be not allowed to acquire other roads without the authority of the federal government, and it had also recommended that its regulation of security issues under section 20-a be extended to holding companies. The commission's jurisdiction over security issues, he said, has in some instances been evaded in such cases as when the Pennsylvania transferred to the Pennsylvania Company, in 1928, $35,700,000 of the common stock of the Norfolk & Western, which had been used by the holding company as collateral for loans to buy stock of the Wabash and Lehigh Valley, or as when the Nickel Plate and Chesapeake & Ohio transferred to holding companies treasury stocks in other railroads which were then used as collateral for loans to buy additional stocks. Another use of holding companies which calls for investigation, he said, is that by railroads to control non-carrier companies and effect results which may be subversive of public interest.

Referring to the ownership of stock of the National Freight Company by the Pennroad Corporation, Mr. Eastman said that forwarding companies now are able to discriminate among their patrons without violating the law but that if they come under the control of railroads they might be used to give shippers special inducements to influence routing over a particular road. He read from a letter received by the commission from Ex-Commissioner J. B. Campbell as counsel for a number of exporters urging the commission to order a general investigation of forwarding companies and their relations with railroads and to report its findings to Congress with a view to a clarification of the law. The letter said that the forwarding companies receive concessions from the railroads not given other shippers, such as low rentals for terminal space used, etc.

Mr. Eastman also referred to the control by the Van Sweringen interests of the Pittston Company, organized to lease anthracite coal properties controlled by the Erie and to mine and distribute coal which may move on the Van Sweringen railroads. He also suggested that the commission inquire into the question of overcapitalization of holding companies, pointing out that the unregulated securities of holding companies are often substituted in the market for the regulated securities of the railroad companies which they control.

* * *



**The Thirty-Car Diesel-Motor Ferry "Korsor" of the Danish State Railways**

# Proposed Railway Legislation

WASHINGTON, D. C.

TWO bills intended to carry out recommendations made by the Interstate Commerce Commission in its annual report were introduced in the House on April 3 by Chairman Parker of the committee on interstate and foreign commerce. H. R. 11363, to amend section 17 of the interstate commerce act, would authorize the commission to assign or refer to an individual commissioner, or to a board composed of an employee or employees of the commission, any portion or class of its work, business or functions arising under any act of Congress or referred to it by Congress or either branch of it, with the exception of investigations involving charges for transportation service for the future instituted as provided in section 13 or 15 by formal complaint or petition or on motion of the commission and contested finance cases involving construction, extension, acquisition, abandonment, consolidation, valuation, or issuance of securities.

The commission has heretofore advocated a somewhat similar bill introduced by Representative Summers, but the latter bill has met with considerable opposition and Representative Parker has introduced a bill excepting certain classes of work so that they must be passed on by the entire commission or a division in an effort to reconcile the conflicting views of those who wish to enable the commission to facilitate some of its work and those who object to allowing too much discretion to individuals. The Parker bill also provides that the commission may at any time amend, supplement or rescind any such reference of assignment to a commissioner or board and, while the individuals or boards are given the jurisdiction and powers of the commission to "hear and determine, order, certify, report or otherwise act," it is also provided that any party affected by any such act may file a petition for reconsideration and rehearing by the commission, and that each such petition shall be passed upon by the commission or a division.

H. R. 11364 would amend paragraph 4 of section 15 of the act, which authorizes the commission to require the establishment of through routes and joint rates to read: "In establishing any such through route the commission shall not (except as provided in section 3 and except where one of the carriers is a water line) require any carrier by railroad, without its consent, to embrace in such route substantially less than the entire length of its railroad and any intermediate railroad operated in conjunction and under a common management or control therewith, which lies between the point where traffic under such proposed route would be received by such carrier and the destination terminus thereof, unless such inclusion of lines would make the through route unreasonably long as compared with another practicable route which could otherwise be established." The commission had recommended that the paragraph be amended so as to restrict the "long-haul right" to originating carriers, because of the decision of the Supreme Court in the Subiaco route case.

The House on April 3 passed the bill H. R. 3141, to amend paragraph 11 of section 20 of the interstate commerce act, which relates to the provisions of bills of lading, for the purpose of simplifying the statutory limitations regarding the time of filing claims. The amendment provides that it shall be unlawful for a carrier to provide by rule or otherwise a shorter period for the filing of claims than nine months, and for the institution of suits than two years, the latter period to be computed from the date of notice by the carrier that it has disallowed a claim.

A resolution similar to that introduced in the Senate by Senator Couzens, to suspend the authority of the Interstate Commerce Commission to authorize railway unifications, until further act of Congress and to declare unlawful any consolidation or unification without the approval of the commission, was introduced in the House on April 4 by Representative Knutson, of Minnesota, as H. J. Res. 290.

The Senate committee on interstate commerce considered the Couzens resolution at its meeting on April 8, and, at the request of the Association of Railway Executives and the American Short Line Railroad Association, agreed to hold hearings on it on April 15 and 16.

# Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended March 29 amounted to 885,159 cars, a slight increase as compared with the previous week but a decrease of 84,037 cars as compared with the corresponding week of last year and of 63,584 cars as compared with 1928. Coal loading showed an increase of 21,164 cars as compared with last year but all other commodity classifications showed reductions. The reduction in miscellaneous loading was 63,502 cars. All districts also showed reductions as compared with both years, except the Pocahontas, which reported an increase as compared with 1928. The summary as compiled by the Car Service Division of the American Railway Association, follows:

**Revenue Freight Car Loading**

Week Ended Saturday, March 29, 1930

| Districts | 1930 | 1929 | 1928 |
|---|---|---|---|
| Eastern | 205,250 | 230,180 | 216,545 |
| Allegheny | 181,196 | 200,174 | 191,996 |
| Pocahontas | 49,237 | 49,377 | 48,349 |
| Southern | 143,884 | 158,036 | 163,448 |
| Northwestern | 101,179 | 115,633 | 116,282 |
| Central Western | 129,959 | 135,266 | 133,839 |
| Southwestern | 74,454 | 80,530 | 78,284 |
| Total Western Districts | 305,592 | 331,429 | 328,405 |
| Total All Roads | 885,159 | 969,196 | 948,743 |
| Commodities | | | |
| Grain and Grain Products | 38,056 | 39,452 | 43,305 |
| Live Stock | 23,573 | 23,593 | 27,416 |
| Coal | 147,600 | 126,436 | 151,070 |
| Coke | 10,431 | 11,571 | 10,243 |
| Forest Products | 55,664 | 71,155 | 68,060 |
| Ore | 9,254 | 11,888 | 8,412 |
| Merchandise L.C.L. | 245,121 | 266,139 | 261,652 |
| Miscellaneous | 355,460 | 418,962 | 378,585 |
| March 29 | 885,159 | 969,196 | 948,743 |
| March 22 | 875,542 | 962,400 | 950,194 |
| March 15 | 881,187 | 958,601 | 942,572 |
| March 8 | 873,548 | 947,539 | 951,556 |
| March 1 | 899,189 | 978,201 | 959,494 |
| Cumulative total, 13 weeks | 11,270,011 | 12,153,528 | 11,792,196 |

## Car Loading in Canada

Revenue car loadings at stations in Canada for the week ended March 29 totaled 57,386 cars, a decrease from the previous week of 1,572 cars and a decrease from the same week last year of 4,138 cars.

| | Total Cars Loaded | Total Cars Rec'd from Connections |
|---|---|---|
| Total for Canada | | |
| March 29, 1930 | 57,386 | 36,300 |
| March 22, 1930 | 58,958 | 36,446 |
| March 15, 1930 | 60,305 | 38,282 |
| March 30, 1929 | 61,524 | 44,277 |
| Cumulative Totals for Canada | | |
| March 29, 1930 | 738,589 | 478,216 |
| March 30, 1929 | 805,380 | 561,160 |
| March 31, 1928 | 817,343 | 516,469 |

# Adverse Report on Short Line

WASHINGTON, D. C.

C. V. BURNSIDE, assistant director of the Bureau of Finance of the Interstate Commerce Commission, and Edward Gray, engineer-examiner, have submitted to the commission for the second time a proposed report recommending a finding by the commission that the present and future public convenience and necessity are not shown to require the construction and operation by the New York, Pittsburgh & Chicago of a new short line from Allegheny City to Easton, Pa., 283 miles, with two branch lines, from Allegheny City to North Sewickley, 31 miles, and from Pittsburgh Junction into the industrial district of Pittsburgh, 30 miles, at an estimated cost of $232,500,000. It must be held, they said, that the applicant has failed to establish such a degree of necessity for its proposed line as would justify the commission in granting a certificate for its construction, but the suggestion is made that the construction of such a line should eventually be undertaken in the joint interest of the existing eastern lines. This is the second occasion on which the commission has had a proposed report adverse to the application of the N. Y. P. & C. for a certificate for this line, promoted by L. F. Loree. Following hearings on the original application in June, 1925, Messrs. Burnside and Gray recommended that the application be denied without prejudice to later resubmission with more specific plans and estimates and at the request of the applicant a further hearing was held in December, 1929.

The route of the proposed line would shorten the distance between New York City and Pittsburgh from 70 to 74 miles and the applicant claimed that on account of the physical advantages of the route the operating expense of carrying a given amount of freight between New York and Pittsburgh would be at least 25 per cent less than by the shortest existing route.

Inasmuch as the proposed line would be engaged almost wholly in the transportation of through traffic, as to which its function would be that of an intermediate or "bridge" carrier, the report says, "it follows that substantially all of its tonnage would be diverted from present routes." The report concludes as follows:

"Notwithstanding the conditions which have tended to check the growth of rail traffic in eastern territory and may continue to do so, there can be no doubt that there will be an increasing demand for adequate and expeditious freight service to and from the eastern seaboard, and the supplemental evidence now before the commission again raises the question, with renewed force, as to the best method of supplying the future needs of transportation between the Middle West and New York harbor. Obviously, the rail lines now existing were originally established on routes which offered the least resistance to construction, investment often being restricted at the cost of future operation. Great sums have been expended in improving these lines to care for the increasing traffic. The same process may undoubtedly be followed indefinitely. But that the carriers feel the need of a change in the program is evidenced by their own projects for additional routes, which, however, lack the remedial value of such a facility as is here offered by the applicant. To accomplish the greatest benefit to carriers and public alike, the facility should be provided under such auspices as will enlist the support and co-operation of the present carriers; and this condition may best be met by such arrangement as will give all a direct financial interest in its success. This was, in effect, the view of the Baltimore & Ohio, which said in its response to the questionnaire issued prior to the original hearing, 'If and when the construction of such a super-line is required or justified, it should be undertaken by and in the joint interest of the existing carriers which, through a series of years, have developed the country to be served, and not by a new aggregation of capital which would simply compete for the business already developed.' Whether or not the priority of the rights of existing carriers should be conceded, such a program, under present conditions, contains the greatest promise of public good."

# Cincinnati Terminal Efficient

THE organization and activities of the Cincinnati operating committee were described in detail in the *Railway Age* of June 30, 1928. This committee is an impartial body appointed to supervise all joint operations in the Cincinnati terminal. That the successful functioning of this committee as previously reported, is being continued, is clearly indicated in the annual report covering its activities in 1929.

In the matter of transfer orders issued, the showing continues to be remarkable. The number issued in 1929 was 10,516 less than in 1923, and a progressive improvement is shown, as indicated by the table:

| Year | Transfer Orders Issued |
|---|---|
| 1923 | 10,935 |
| 1924 | 7,096 |
| 1925 | 2,222 |
| 1926 | 932 |
| 1927 | 733 |
| 1928 | 521 |
| 1929 | 419 |

This remarkable showing is the result of a steady and persistent campaign of co-operation among the various lines entering the Cincinnati terminal.

As a result of the opening, in April, of a new bridge across the Ohio river between Cincinnati and Covington, Ky., used by the Chesapeake & Ohio and Louisville & Nashville for interchange with the north-bank lines, the movement of cars in interchange has been vastly accelerated, while the tonnage per train using the bridge has been increased nearly 100 per cent.

The interchange between connections is watched closely, and, at the first sign of threatened congestion or interference with the normal movement, the matter is handled with the lines involved. When necessary, a joint conference is held with the officers of the interested lines and misunderstandings and tangles are straightened out.

The committee continued its watchfulness of the annoying, and sometimes unnecessary ordinances, which come up periodically in the city council. For instance, last year, an anti-noise ordinance was introduced which, if passed, would have practically paralyzed terminal operations. Representatives of the committee held a conference with the mayor and the city manager, explaining the situation, and secured their agreement to exempt whistling, ringing of bells, and other audible signals necessary to railroad operation, and the ordinance, as finally passed, contained these exemptions.

At the beginning of the year, the city put on two additional inspectors and began an aggressive campaign to enforce its rigid smoke ordinance. The locomotive and smoke department of the operating committee, however, kept the matter well in hand. The three committee inspectors rode the engines and demonstrated, by personal example, how the smoke could be kept down. Where formerly, several arrests of enginemen were made weekly for violation of the smoke ordinance, no such arrests have now been made since 1926.

# *Communications and Books*

## To Improve Public Relations— Train Traffic Men to Assist

Los Angeles, Cal.

To the Editor:

In your February 8 issue appeared an editorial entitled "Education and the Railroads," which I consider much to the point on present-day railroad problems.

Railroad transportation offers a tremendous field for study and research. Strides in this direction have been made, especially during the past ten years, resulting in noteworthy economies and increased efficiency of operation. Gross revenue has shown an upward trend since 1921, but the past three years have witnessed a considerable slowing up in that trend. Net revenue has increased much more in proportion since 1926 than has gross, due principally to operating economies. Operating ratios have averaged a 22 per cent reduction since 1920. The operating economies to date have been the obvious ones, the easy cuts, if you will, as compared to those necessary if the decreases in operating ratios are to be maintained. Future economies will be more radical, will require more and more scientific research, and greater capital expenditures than have those in the past.

One of the causes for the decreased rate of increase in gross revenue is the decline in volume of some of the larger bulk tonnages. Coal, grain and oil tonnage, which has constituted a considerable item in the gross revenue statement, has not gained lately in appreciable volume. The outlook for a marked revival of this tonnage is not greatly encouraging. Before long the problem of keeping net revenue on the increase in the face of a more nearly stationary gross must be met. This can be done partly through economies, which each year require more profound study and exhaustive experimentation, and partly through co-ordination with those forms of transportation which so far have tended to detract from the rail carriers' gross revenue.

To accomplish the latter there must be eliminated, or at least co-ordinated with the railroads, some of the forms of transportation now being uneconomically engaged in by various small and irresponsible private enterprises and by the national government. One form in particular is that phantasy of the political mind and plaything of the government, the inland waterway program. The American people have been subjected to a course in inland waterway apologetics absurdly unsound economically, yet so cannily presented as to convert to its cause an unbelievable number of otherwise clear-thinking people. Transportation panaceas are constantly mouthed in Congress, in state capitals and elsewhere, which are just as insidious in their power incipiently to bore into the vitally essentially gross revenue of our rail carriers as is the inland waterways project if completed.

One of the main reasons for our ability to revive quickly from the worst financial crash in our history is the excellent and dependable fast freight service rendered latterly by our rail carriers. Reduce the carriers' gross revenue to the extent the schemes for so-called transportation "remedies" will reduce that item, and the railroad service of the past eight years will revert back toward the seemingly insolvable tangle of wartime transportation. Public understanding is the only power which can stop such a national tragedy. And if the real facts in the case are presented constantly and truthfully to the public, the present trend toward unsound transportation panaceas will be turned back.

What are the railroads doing about it? They are engaging the best brains to effect their operating economies. They have discovered that successful operation with rising transportation expenses and a slowing up of gross operating revenue cannot endure under the rule-of-thumb methods of the past. But what are they doing to counteract the ceaseless attempts on the part of the government and of competing forms of transportation to undermine their traffic and usurp their just revenue? They have established public relations committees. These committees have been tremendously effective; they have done a great work. But this work must of necessity consist of a great amount of pamphleteering, very effectively written, but lacking, nevertheless, the widespread converting power of the spoken word if the latter could be extended on a nation-wide scale.

The railroads possess a potentiality of great possibilities for public relations work which they have practically overlooked. This consists of the railroad traffic solicitation forces, who can be made an invaluable ally of the public relations committees. The traffic solicitors and the ticket sellers throughout the country talk daily with thousands of the shipping and traveling public and are in a position to discuss intimately the great transportation problems. Through intelligent discussion of these problems they can win a great army of friends and supporters to the cause of the railroads. Railroad traffic officers assist the public relations committees by making public addresses, but if a public relations committee were to be asked if the great army of railroad traffic solicitors at present constitute an ally, I wonder what the answer would be.

To become a good public relations man, a solicitor must be trained for such work. Such training will necessitate considerable outside study upon the part of the man himself. His superiors, co-operating with the executives and public relations officers, should provide the incentive and the materials for his training. The present-day traffic solicitor receives little or no such training. He learns the workings of his own company, but in the great nation-wide transportation problems in which the effective public relations man must be conversant, he has little working knowledge. "Own-company mindedness" in times past has solved many competitive problems as between rail carriers, and it is this attitude of mind which dominates the traffic solicitor today. The railroad industry is faced by the greatest menace in its history, the proposed waterways program. Other grave shadows are arising to reach out for a slice of the railroads' gross revenue. These must be counteracted by the efforts of the entire railroad industry, and the man who knows only his own company is not properly armed for the battle.

His superiors can convert the "company minded" man into one who is "transportation minded." It is a radical departure, I know. It will require much convincing argument and breaking down of precedent in order to materialize. It will require action upon the part of the managements of the railroads to keep their solicitation staffs posted on the developments in the larger transportation problems. This should take the form of a permanent and continuous campaign of education by the railroad general officers. The status of the solicitor will have to be changed. He should include in his mental equipment a knowledge of transportation in its broadest sense. This will not only make him a public relations man but should also make him a better traffic-getter than he can be without such training. A feeling that he is essential to the well being of his industry raises a man's estimate of himself and makes him that much more useful. The custom of not allowing a man to sign his own name until he attains an official rank should be relegated to the scrap heap of other railroad psychological errors.

In other words, the day of the hale-fellow-well-met solicitor with his joviality and his cigars and his knowledge of his own company only should give way to that of just as hale and hearty and kindly a man, who also has a keen interest in transportation as a whole and a desire to acquaint himself with our great transportation problems as against a more or less laissez-faire attitude toward them.

The great nation-wide solicitation forces of the railroads can become the true ally of the public relations committees. Such a body of men can carry directly to the vast number of individuals who make up our traveling and shipping public by means of the spoken word the messages prepared by their officers, by the public relations committees and by themselves, if they qualify themselves for the work. By so doing they will greatly increase the percentage of the American people intimately conversant with the programs and progressive policies of our railroads and thus create many more friends for the carriers. They will raise the standard of traffic solicitation to a higher plane. The resulting increased productivity per man will, though the individual remuneration might be greater, tend to reduce the burden of traffic department expenses. Competition should exist in traffic solicitation because it stimulates good transportation service, but the day has come when competition as between individual railroads must go hand-in-hand with a spirit of co-operation and getting together in the most effective manner possible to combat those ever present influences which, if not curbed, mean sooner or later a reduction in gross revenues.

Commercant.

# Books and Articles of Special Interest to Railroaders

*(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)*

### Books and Pamphlets

*Channel Tunnel Committee Report.* Presented to Parliament by Command of His Majesty, March, 1930. "Historical survey" p. 8-12 ("Suggestions for the construction of a submarine tunnel . . . were made . . . as far back as 1800. . . ."); "Proposed New Methods of Cross-Channel Communication Other Than A Channel Tunnel" p. 12-20; "The Present Proposals for A Channel Tunnel" p. 20-24; "Geological and Engineering Problems" p. 24-31; "Traffic Problems" p. 31-52; "Economic Questions" p. 53-74; "Miscellaneous Considerations" (includes questions of jurisdiction and sovereignty to be settled, possibility of disease transmission, and possible social effects) p. 74-78. Concludes that none of the new forms of cross-Channel communication, i.e. train ferries, bridge, etc., can be regarded as a satisfactory alternative to a Channel Tunnel, that it could be successfully undertaken but to remove all elements of doubt a pilot tunnel, estimated to cost £5,600,000, be driven across the Channel, and that if the pilot tunnel be successfully constructed in the manner proposed, the practicability of constructing traffic tunnels may be regarded as established. Estimated cost of traffic tunnels about £25,000,000. 111 p. maps, charts, diagrams. Pub. by H. M. Stationery Office, London, England. 3 shillings. Available in this country from British Library of Information, New York City.

*A Guide to Good Construction of Nailed Wooden Boxes.* While intended primarily for shippers and railway employees, this publication, which is Bulletin No. 14 of the Freight Container Bureau, will be useful in homes and home economics departments also. 23 p. Pub. by Freight Container Bureau, American Railway Association.

*"What Is Not Yet May Be"—Fiftieth Anniversary Number, Mechanical Engineering, April 1930.* A handsome volume reviewing progress in mechanical engineering during the past fifty years, and suggesting the goal for the future. "Technologically, the future is safe. We have learned the art of applying science to useful ends. What we still lack is that greater wisdom to wipe out the plague spots, to bring about an orderliness in the control of the vast forces we unloose so that we may have progress without the waste in human and other material which has marred many of our past efforts. The problems involved are largely outside of engineering in its narrow sense—they are humanitarian, economic and political problems. . ." p. 259. The Transportation Section has an historical foreword by Roy V. Wright, managing editor, *Railway Age,* and a review of railway transportation by C. B. Peck, managing editor, *Railway Mechanical Engineer,* p. 455-479. 508 p. Pub. by American Society of Mechanical Engineers, New York City.

### Periodical Articles

*The Administration of Transport Undertakings—Finance and Statistics,* by R. H. Selbie, Problems of finance and the use and value of statistics discussed. Journal of the Institute of Transport, March 1930, p. 209-215.

*Costs Are But One Factor In Railroad Rate Making,* by E. R. Woodson. Takes up railroad costs for managerial use, and the "cost of cost accounting." American Accountant, April 1930, p. 179-180.

*The Railways of Africa,* by Charles Travis. "The area is given officially as 11,500,000 square miles, and the population as 143,000,000, there being thus one-third of a mile of railway per 100 square miles of territory, and 2.66 miles per every 10,000 inhabitants." Mileage and gages, transcontinental routes, organization, services and speed, special problems because of sun, future developments surveyed. Journal of the Institute of Transport, March 1930, p. 224-232.

# *Looking Backward*

## Fifty Years Ago

The rail market has suffered a marked decline, American steel rails being quoted at $74, iron rails at $60 @ 63, and old rails at $34 @ 35.—*Railway Age,* April 15, 1880.

Under a new timetable, the Ohio & Mississippi [now part of the Baltimore & Ohio] makes the run from St. Louis to Cincinnati in eight hours and forty-seven minutes, with an average speed of 38 miles per hour. Allowing for stops the actual running time is seven hours and forty-eight minutes, or an average speed of 43 miles per hour.—*Railway Age,* April 15, 1880.

The Canadian government has just announced that it will expend $10,000,000 this year and the same amount in 1881 for the completion of the Thunder Bay branch of the Canadian Pacific and its extension for 200 miles west of Winnipeg. It is estimated that the 1,300 miles from Thunder Bay to the Rocky mountains will cost, equipped, $30,000,000, or about $23,000 per mile. It is not strange that there should be two parties in Canada, one strongly opposing the enormous expenditure necessary to cross the desert and the Rocky Mountain range beyond in order to propitiate the people of British Columbia and keep them from revolting from the Dominion, and the other urging the advantages of the proposed line and declaring that it will more than repay the cost.—*Railway Age,* April 15, 1880.

## Twenty-Five Years Ago

In a speech at Austin, Tex., last week President Roosevelt paid a tribute to the railways for their great work in the development of the country. While asserting the right of the public to exercise a supervisory and regulatory power over the railroads, he declared that he should absolutely refuse to be a party to any proposition that interfered with the proper and legitimate prosperity of the men who own them.—*Railway Age,* April 14, 1905.

Walter L. Ross, heretofore general passenger agent and assistant general freight agent of the Toledo, St. Louis & Western [now part of the New York, Chicago & St. Louis], has been appointed general freight agent and will continue as general passenger agent, with headquarters at Toledo, Ohio. Robert B. Pegram, soliciting agent of the Southern at Birmingham, Ala., has been appointed chief clerk to the fifth vice-president at St. Louis, Mo.—*Railway Age,* April 14, 1905.

## Ten Years Ago

E. E. Adams has been appointed assistant to the president of the Union Pacific in charge of purchases, engineering and standards. Michael H. Cahill has been appointed general manager of the Seaboard Air Line. Henry B. Voorhees has been appointed general manager of the New York terminal lines of the Baltimore & Ohio. James E. Hutchison has been appointed general manager of the St. Louis-San Francisco.—*Railway Age,* April 9, 1920.

Strikes, threatened strikes, blizzards and even tornados have conspired during the past few weeks to interfere with the carrying on of transportation in the Central West. On April first, 700 members of the Chicago Yardmen's Association struck on the Chicago, Milwaukee & St. Paul, following the removal of their president, John Granau, a yard conductor. Yardmen on the Illinois Central, the Chicago & North Western and the Chicago Junction walked out on April 3. On April 5 approximately 60 per cent of the switchmen on 11 roads at Chicago had walked out.—*Railway Age,* April 9, 1920.

# *Odds and Ends of Railroading*

## Multiplication

In the matter of twins and triplets, George D. Rhodes, engineman for the Louisville & Nashville at St. Helens, Ky., wins the championship. He has been married 15 years and is the parent of 11 children, including twins 18 months old, and two sets of triplets, one set being six years old, the others having arrived on December 5, 1929.

## A Record Telegram

While the Rock Island believes in briefness in telegrams, occasionally it is necessary to send quite a volume of information over the wire. Such a message, recently sent by the transportation department to the assistant general freight agent at Oklahoma City, resulted in a telegram eight feet long, a record for the Rock Island. The message was sent over a printer machine, without a single error.

## Catching 'Em Young

Robert James Althouse, infant son of the chief clerk in the ticket office at Pennsylvania station, New York, bears the distinction of being the first baby to be christened in an aeroplane. The ceremony was performed over Manhattan Island by Rev. Frank S. Mead, of Grace Methodist Church of Newark, N. J. The parents, two witnesses and the pilot completed the passenger list.

## Railway House-Moving

A new use was found for a locomotive recently when a large structure was moved to a new location with the assistance of one of the large engines of the Northern Pacific. The unusual operation was carried on in the yards at Laurel, Mont., where the railway company is completing extensive improvements and enlargements. An ice house, 250 ft. long by 40 ft. wide and 40 ft. high, first was moved across one of the yard tracks and then hitched to a locomotive and pulled nearly half a mile to a new location.

## More Crossings

WOODSVILLE, N. H.

TO THE EDITOR:

In the Odds and Ends column, I note reference to the Southern Pacific crossing the Sacramento river 18 times in 32 miles; also the Boston & Albany crossing the Westfield river 21 times in 15.7 miles. The Boston & Maine is a close second, in that, on the main line of the Southern division between Canaan, N. H., and Westboro, the Mascoma river is crossed 25 times in a distance of 16.5 miles.

H. S. SMITH,
Trainmaster's Clerk, Boston & Maine

## The Lincoln Funeral Train

NEW YORK.

TO THE EDITOR:

In a recent issue of the *Railway Age*, I noticed that the Pullman Company wishes to complete its record of the Lincoln funeral train journey, and readers were invited to contribute information regarding any of the details of this historic trip.

Two years ago, while visiting the Lincoln Museum, opposite Ford's Theatre, in Washington, I glanced through a dusty little booklet which contained instructions to engineers and train crews for the entire route of the funeral train. These included speed limits, scheduled running times and various other data. It was a most interesting little pamphlet. I believe it belongs with the rest of the Ackroyd collection of which the museum is composed.

I suppose the Pullman people have exhausted the usual sources of Lincolniana but I should like to call their attention to the very complete and graphic description of the funeral procession, as well as the subsequent legends built about it, given in "Myths After Lincoln," a book published about a year ago and a best-seller at the time.

G. KAISER,
Advertising Agent, Lehigh Valley.

## The Rosevear Family

The Canadian National boasts a family with a service record hard to equal, in the Rosevears. Matthew Rosevear came out to Canada from England in 1854, with his son, W. H. Rosevear, and both accepted employment with the Grand Trunk. The father served for 30 years as an engineman and locomotive foreman. The son retired in 1908, after 54 years' service as mechanical accountant and general car accountant, and is still hale and hearty in his 92nd year. Three of his sons in turn followed in the footsteps of their father and grandfather. W. H. Rosevear, Jr., served in the mechanical department for 27 years before entering the railway supply business. A. E. Rosevear retired in December, 1929, as general freight agent, after 52 years' service. J. M. Rosevear is general comptroller of the system, with 27 years' service. His son, F. S. Rosevear, the great-grandson of Matthew, is assistant accountant of the Montreal terminals construction, and has been in service six years. The total service of this remarkable family is 196 years.

## A Spiritual Influence

DETROIT, MICH.

TO THE EDITOR:

Fifty years ago, one Duncan Sinclair had come from the banks of the Clyde to run a train on the Continental division of the Pacific & Great Eastern, which the old timers will recall as a single-track main line with a mountain in the middle of it. Duncan was not only a good railroader but a fine moral influence on the division. The trainmaster hired the brakemen from the countryside and put them on Duncan's caboose to learn their profession. On a certain night he went west with 4th 49, train of merchandise. Arriving at the foot of the mountain, it developed that only three hill engines were working, one apiece for the first three 49's. Duncan went at once to the telegraph office and told the dispatcher he would cut and double. The dispatcher told him to stay where he was—that there were two 38's coming down, and that one of the hill engines would follow 2nd 38 and pull him up. As they were in-to-clear, the flagman had come in, and the fireman had wandered back to the caboose. Old Duncan, estimating an hour's delay, took the Bible down from the shelf and preached them a little sermon from the 12th verse of the 72nd psalm.

W. MILLER WARDROP,
Assistant Vice-President, Pennsylvania.

* * *

**Railway Models Displayed for Enthusiastic English Schoolboys**

# NEWS *of the* WEEK

*The Boston & Maine's "Minute Man," with locomotive "William Dawes," at Waltham, Mass.*

THE MISSOURI-KANSAS-TEXAS is planning to test 10 different types of locomotive whistles to determine the efficiency of the whistles in concentrating sounds ahead of the locomotive. The experiment will be made under the supervision of the superintendent of safety.

BILLS HAVE BEEN INTRODUCED in the Senate by Senators McNary and Steiwer, of Oregon, to authorize the Secretary of War to extend the services and operations of the Inland Waterways Corporation to any inland waterways or water routes where, in his opinion, such extension would be of national benefit.

OPERATION OF THE CHICAGO, MILWAUKEE & GARY as a part of its system was begun by the Chicago, Milwaukee, St. Paul & Pacific on April 1st. The portion of the line between Delmar, Ill., and Joliet has been absorbed as part of the Terre Haute division while the portion between Joliet and Kirkland will be operated as part of the Illinois division.

THE GREAT NORTHERN'S NEW BRIDGE over the Columbia river at Marcus, Wash., which was to have been placed in service shortly after April 1, was partially destroyed by fire on March 26, with a loss estimated at $150,000. Three wooden spans, which had been removed from the old bridge at the same location, and some trestle work in the approaches were burned, and a steel span fell into the river.

THE PENNSYLVANIA has recently opened a new coal dumping pier at Greenwich, Philadelphia, Pa. The new pier, replacing an older plant at the same place, is provided with twin rotary dumpers, electrically operated, which are capable of delivering to boats more than 25,000 tons of coal every 24 hours. The pier is served by a 35-track storage and classification yard and by a thawing plant large enough to accommodate 60 cars at one time.

## Highway Safety Conference

Robert P. Lamont, secretary of commerce, acting as chairman of the National Conference on street and highway safety, has issued the call for the third session of the conference, which is to be held at the United States Chamber of Commerce, Washington, D. C., on May 27, 28 and 29. Large committees have been at work in this field for many months and the reports of these committees will be issued for public criticism prior to the convening of the conference. The governors of all the states have been invited to send official delegates to the conference.

## Money for Syracuse Crossings

The legislature of New York has passed and the governor has approved a law, Chapter 279 of 1930, authorizing the issuance of grade crossing elimination bonds to the amount of $30,000,000; of which amount $13,500,000 is to be available for use in the city of Syracuse.

## Wage Statistics for January

The number of employees reported by Class I railways to the Interstate Commerce Commission as of the middle of January was 1,561,035, and their total compensation for the month was $233,267,945. Compared with returns for the corresponding month of last year this shows a decrease of 33,709 employees, or 2.11 per cent, while the total compensation shows a decrease of $3,188,263, or 1.35 per cent.

## New York Grade Crossing Law

The Legislature of New York has passed a law, which is Chapter 341 of the year 1930, amending the New York City grade crossing elimination act so as to authorize the inclusion, in the cost of eliminations, the expenses incurred by the State Transit Commission in the supervision of the work and any expenses necessarily incurred in connection therewith.

## Dismissal of Unification Applications Proposed

The Interstate Commerce Commission on April 7 issued orders directing the Delaware & Hudson and the Wabash to show cause within 30 days why their applications filed last year for authority to acquire control of groups of roads in eastern territory should not be dismissed, stating that the application, filed under paragraph 2 of section 5 of the interstate commerce act do not comply with the regulations for such applications as they do not set forth the terms and conditions. The Baltimore & Ohio and the Chesapeake & Ohio had already withdrawn their applications, responding to a suggestion from Director C. D. Mahaffie of the commission's Bureau of Finance.

## California Proposes Bond Issue For Crossing Elimination

Plans have been prepared in California for the submission of a constitutional amendment to the electorate of that state in November, designed to provide funds for the elimination of highway and railway grade crossings. The proposed amendent provides that the legislature, by a two-thirds vote may issue bonds, of which there shall not be more than $10,000,000 outstanding at any time. The apportionment of a part of the cost of crossing elimination to the railroad would be determined by the railroad commission, with the remainder to be paid two-thirds by the state and one-third by the cities and counties affected. The state's portion of the cost of any one elimination is to be limited to $50,000. A report prepared by the transportation engineer of the railroad commission shows that grade crossing accidents in 1929 increased 30 per cent over 1928.

## Kentucky and Mississippi Railroad Legislation

The Kentucky legislature has enacted a law enlarging the powers of the state railroad commission to enable that body to regulate and prescribe two or more individual or joint rates of common carriers in the same way that it now regulates each separate individual or joint rate. The bill gives the commission the power to classify property for shipment and to determine the tariff for that classification.

A bill to limit the number of cars in trains and one to regulate the operations of trains and the number of employees

on a train, were reported unfavorably in the state senate, although a bill on the latter subject was passed by the house of representatives.

In Mississippi a bill has been introduced in the lower branch of the legislature which is intended to encourage installation of safety devices at highway grade crossings by prescribing the minimum safety features and limiting the liability of railroads at such crossings.

## U. S. Chamber of Commerce Meeting

The program for the eighteenth annual meeting of the Chamber of Commerce of the United States, to be held in Washington April 28 to May 1, includes a round-table discussion on April 30 on "What's Ahead for Business in Railroad Transportation." The topics for discussion include Co-Ordination of Rail, Highway, Waterway and Air Transportation, Railroad Consolidation, and Expeditious Settlement of Rate Controversies. The program also includes a round-table discussion of Inland Waterway Transportation on April 29. Among the questions proposed by members for consideration at the meeting the Railway Business Association has suggested a declaration calling attention to the burdens assumed by railroads in providing for betterments and additions this year, their need for sustained revenues, and the consequent desirability that the depletion in revenues due to business conditions should not be aggravated by reduction in rates.

## Bus Bill Amended by Senate Committee

The Senate committee on interstate commerce on April 9 ordered a favorable report on the Parker bill for the regulation by the Interstate Commerce Commission of interstate passenger motor vehicle transportation, with a number of amendments, including a change in the date of the "grandfather clause" from March 1 to April 1. The committee decided not to hold hearings on the bill but considered a number of amendments in executive session on April 1, 8 and 9. Among the amendments was one offered by Senator Couzens to provide that absence of adequate service or adequate competition on a route shall be considered as sufficient evidence on which to issue a certificate to a responsible applicant. This was offered as a substitute for an amendment adopted in the House requiring the commission to consider an application for a certificate over any route on which the existing service is furnished by a company affiliated with a railroad.

## C. & I. M. Contemplates Taking Over C. P. & St. L.

The Chicago & Illinois Midland is preparing a plan for taking over the portion of the old Chicago, Peoria & St. Louis between Springfield and Alton, following requests by people living along the line. The acquisition of the property is contingent upon the securing of additional right of way which is considered essential for the economical and efficient operation of the line in the future. In the event the additional land, a strip about 100 ft. wide, is furnished by the people along the line, and the Chicago, Springfield & St. Louis is taken over for operation, it is suggested that arrangements be made between the Chicago & Illinois Midland and the owners of adjoining farms to use the additional right of way for agricultural purposes until it is actually required by the railroad for its purposes. It is proposed to lease the land for the cultivation of alfalfa for a term of years without rental charge. The railroad will also furnish, without cost to the farmer, the necessary limestone and alfalfa seed for the development, and in exchange, the farmer will be asked to divide the alfalfa crop with the railroad.

The plan is similar to the agricultural development scheme which the Chicago & Illinois Midland employs on the railroad it now operates. A part of the right of way, from Springfield to Pekin, has been leased to adjacent farmers who prepare the soil, spread the limestone, seed the tract of land and harvest the crop, which is divided equally between the farmer and the railway company.

## Western Pacific Seeks All-Rail Route to San Francisco

The Western Pacific at a hearing before Haskell C. Davis, Interstate Commerce Commission examiner, at San Francisco, Cal., April 1 to 4, rejected the offer of the Southern Pacific to provide a "bridging service" over its existing line between Niles, Cal., and San Francisco, thus to make unnecessary a new railroad between those points. The Western Pacific now uses a ferry from Oakland to San Francisco.

H. M. Adams, president of the Western Pacific, in refusing the Southern Pacific offer declared that its acceptance would definitely exclude the peninsula area south of San Francisco, between San Francisco bay and the Pacific ocean, from the benefits of railroad competition; exclude the Western Pacific from an opportunity to participate in the benefits of the peninsula development; and result in Western Pacific live stock shipments being turned over to the absolute control of the Southern Pacific.

Mr. Adams was seconded in his objections to the Southern Pacific offer by A. J. Mott, chief engineer of the Railroad Commission of California, who declared that use of the present Southern Pacific line would fall far short of meeting the requirements of public convenience and necessity.

The Western Pacific accepted the suggestion of the California commission that the proposed line should be thrown open to the use of any major road that may hereafter seek an all-rail entrance into San Francisco. Such a line might be used by the Atchison, Topeka & Santa Fe and possibly by the Great Northern.

The proposed project calls for the construction of a line from Niles, on the Western Pacific main line, to a point on the eastern shore of San Francisco bay, thence across the bay on a new bridge to Redwood City, and from the latter point north along the western shore of the bay to San Francisco, a total of about 40 miles. The cost of construction, including $2,000,000 for the bridge, is estimated at $8,000,000.

## Fuel Convention Program

The twenty-second annual convention of the International Railway Fuel Association will be held at the Hotel Sherman, Chicago, May 6 to 9, inclusive, the following program of addresses and committee reports being scheduled for presentation:

*Tuesday Morning—11 A. M.*

President's address
Address: J. S. Pyeatt, president, Denver & Rio Grande Western
Address: Samuel O. Dunn, editor, *Railway Age*
Address: C. E. Bockus, president, National Coal Association

*Tuesday Afternoon—Mechanical Session*

Address: F. H. Hardin, assistant to president, New York Central
Report of Committee on Steam Turbine Locomotives
Report of Committee on Diesel Locomotives
Report of Committee on Front Ends, Grates and Ash Pans
Report of Committee on New Locomotive Economy Devices

*Wednesday Morning—Operating Session*

Address: H. N. Rodenbaugh, vice-president, Florida East Coast
Paper: D. L. Forsythe, road foreman of engines, St. Louis-San Francisco
Report of Committee on Coal Locomotive Firing Practice
Report of Committee on Oil Locomotive Firing Practice

*Wednesday Afternoon*

Discussion on firing practice

*Thursday Morning—Fuel Handling Session*

Address: R. E. Woodruff, vice-president, Erie
Report of Committee on Inspection and Preparation of Coal
Report of C. H. Dyson on trade relations with the National Coal Association
Report of Committee on Co-operation with Railway Accounting Officers
Report of Committee on Fuel Bulletins

*Thursday Afternoon—Fuel Continued*

Report of Committee on Fuel Distribution and Statistics
Report of Committee on Classification of Coal
Paper on Texas lignite, by J. C. Nolan, fuel engineer, Gulf Coast lines
Report of Committee on Storage of Coal and Oil

*Friday Morning*

Report of Committee on Fuel Stations
Report of Committee on Coal and Oil-Fired Power Plants

## Pennsylvania Unveils Statue of Samuel Rea

On April 9, in the presence of directors and executive officers of the company in the Pennsylvania station at New York, the Pennsylvania unveiled a statue of the late Samuel Rea, president of that road from 1913 to 1925. The statue, which is of bronze and of heroic size, stands in a niche on the north side of the stairway between the main concourse of the station and the arcade leading to Seventh avenue, directly opposite the statue of Alexander J. Cassatt, one of Mr. Rea's predecessors. The statue, a memorial to Mr. Rea and to his work in extending the Pennsylvania into New York, was designed by Adolph A. Weinman under the direction of a committee of directors consisting of E. B. Morris, C. E. Ingersoll, Jay Cooke and A. J. County.

At the dedication exercises, which were featured by organ selections, the

memorial was presented to the railroad by Effingham B. Morris, the company's senior director, and was unveiled by George Gibbs, consulting electrical engineer of the Pennsylvania, and Gustav Lindenthal, the two surviving members of the original Tunnel Commission. It was accepted in behalf of the company by President W. W. Atterbury.

The statue bears the following inscription:

SAMUEL REA
Vice-President 1899-1912
President 1913-1925
The Pennsylvania Railroad Company
Under whose able supervision this station,
and the extension of the Pennsylvania Railroad into New York
and New England, were
designed and constructed

## A. S. M. E. Celebrates Fiftieth Anniversary

The Fiftieth Anniversary of the American Society of Mechanical Engineers was celebrated April 5 to 9, inclusive, in New York, Hoboken, N. J., and Washington, D. C. The leading scientific and engineering societies and educational institutions throughout the world were invited to send two delegates to the celebration. Similar invitations were also extended to the leading trade associations and trade schools of the United States.

The actual celebration of the A.S.M.E. began on April 5 in New York, where the delegates, members and guests took part in the unveiling of a tablet in the lobby of the Engineering Societies Building, commemorative of the anniversary. The party then adjourned to the offices of the American Machinist where a program was given depicting the preliminary organization meeting on February 16, 1880.

The anniversary program was continued at Stevens Institute of Technology, Hoboken, N. J., where a pageant depicting the progress in mechanical engineering was presented in the college assembly hall where the American Society of Mechanical Engineers was founded on April 7, 1880. This pageant of engineering progress was written by Doctor George Pierce Baker, Department of Drama, Yale University. A welcoming dinner was given at the Hotel Roosevelt in New York at 7:30 p.m. under the auspices of the Metropolitan section of the society. The toastmaster was Charles M. Schwab, an honorary member and past president of the society. The address of welcome was given by the president of the society, Charles M. Piez. Addresses were made by James H. McGraw, chairman of the board, McGraw-Hill Publishing Company, and Robert I. Rees, president of the Society for the Promotion of Engineering Education.

On Sunday morning at 11 o'clock commemorative services were held at the Cathedral of St. John the Divine, New York.

The program then continued to Washington on April 7, where the society convened at 11 o'clock in the National Council Chamber of the United States Chamber of Commerce building. The programs at Washington continued from 10 a.m. April 7 until Tuesday evening, when the Fiftieth Anniversary dinner was held in the Hotel Mayflower at 7 p.m. The last event on the program was a reception at the White House on Wednesday afternoon.

Fiftieth Anniversary medals were conferred upon 16 prominent engineers from as many foreign countries. The formal presentation of the medals were made in each case by the diplomatic representative in Washington of the country sending the delegate. This occasion was also utilized for the presentation of four other medals; namely, the A.S.M.E., the Gantt, the Melville, and the Guggenheim medals to William L. Emmet, Fred J. Miller, Joseph Roe and Orville Wright, respectively.

Dr. W. F. Durand, past president of the society presided as toastmaster at the formal dinner on Tuesday evening. Addresses were made by Charles Piez, Dr. Robert A. Millikan and the Honorable Ray Lyman Wilbur, Secretary of the Interior. This dinner also marked the first presentation of the Herbert Hoover medal which was presented to President Hoover.

## Revenues and Expenses for February

The 173 Class I railroads in the first two months of 1930 had a net railway operating income of $115,169,125, which was at the annual rate of return of 3.88 per cent on their property investment, according to reports compiled by the Bureau of Railway Economics. In the first two months of 1929, their net was $161,914,617, or 5.60 per cent.

Operating revenues for the first two months totaled $879,133,774, compared with $963,661,186 for the same period last year, or a reduction of 8.8 per cent. Operating expenses amounted to $687,014,559, or a reduction of 4.6 per cent. Class I railroads in the two months paid $58,223,420 in taxes, compared with $62,953,714 for the same period the year before. For the month of February alone, the tax bill amounted to $28,760,738, a decrease of $2,787,284 under the previous year. Thirty-one Class I railroads operated at a loss in the first two months of 1930, of which nine were in the Eastern district, four in the Southern and eighteen in the Western.

Net railway operating income by districts for the first two months with the percentage of return based on property investment on an annual basis was as follows:

| | | |
|---|---|---|
| New England Region | $7,104,772 | 6.80% |
| Great Lakes Region | 21,180,021 | 4.46% |
| Central Eastern Region | 24,427,524 | 4.19% |
| Pocahontas Region | 13,504,624 | 9.21% |
| Total Eastern District | 66,216,941 | 5.06% |
| Total Southern District | 15,708,807 | 3.01% |
| Northwestern Region | 3,312,606 | 1.39% |
| Central Western Region | 20,035,543 | 3.49% |
| Southwestern Region | 9,895,228 | 3.04% |
| Total Western District | 33,243,377 | 2.92% |
| United States | $115,169,125 | 3.88% |

Class I railroads for February had a net of $59,452,006, which, for that month, was at the rate of 3.76 per cent. In February, 1929, their net was $84,723,651, or 6.27 per cent.

Operating revenues for February amounted to $427,940,568, compared with $476,155,914 in February of the preceding year, or a decrease of 10.1 per cent. Operating expenses in February totaled $330,579,336, or a decrease of 5.7 per cent.

Railroads in the Eastern district for two months had a net of $66,216,941, which was at the rate of 5.06 per cent. For the same period in 1929, their net was $85,922,601, or 6.77 per cent. Operating revenues for the two months totaled $446,785,022, a decrease of 7.7 per cent, while operating expenses totaled $344,854,411, a decrease of 4.3 per cent. Class I railroads in the Eastern district for February had a net of $32,786,954, compared with $44,843,607 in February, 1929.

Class I railroads in the Southern district for two months had a net of $15,708,807, at the rate of 3.01 per cent. For the same period in 1929, their net amounted to $22,719,368, at the rate of 4.43 per cent. Operating revenues amounted to $116,866,590, a decrease of 8.9 per cent; while operating expenses totaled $91,825,159, a decrease of 3.9 per cent. The net in the Southern District in February amount to $8,127,657, while for that district in the same month in 1929 it was $12,055,416.

In the Western district for the first two months the net was $33,243,377 at the rate of 2.92 per cent. For the two months in 1929, they had a net of $53,272,648 at the rate of 4.81 per cent. Operating revenues in the Western district for the first two months amounted to $315,482,162, a decrease of 10.2 per cent, while operating expenses total $250,334,989, a decrease of 5.3 per cent. For February, the net of the Class I railroads in the Western district amounted to $18,537,395. The net in February, 1929, totaled $27,824,628.

CLASS I RAILROADS—UNITED STATES

| | 1930 | 1929 |
|---|---|---|
| Month of February | | |
| Total operating revenues | $427,940,568 | $476,155,914 |
| Total operating expenses | 330,579,336 | 350,548,846 |
| Taxes | 28,760,738 | 31,548,022 |
| Net railway operating income | 59,452,006 | 84,723,651 |
| Operating ratio — per cent | 77.25 | 73.62 |
| Rate of return on property investment | 3.76% | 6.27% |
| Two months ended February 28 | | |
| Total operating revenues | $879,133,774 | $963,661,186 |
| Total operating expenses | 687,014,559 | 720,302,665 |
| Taxes | 58,223,420 | 62,953,714 |
| Net railway operating income | 115,169,125 | 161,914,617 |
| Operating ratio — per cent | 78.15 | 74.75 |
| Rate of return on property investment | 3.88% | 5.60% |

## The Work of the Canadian Commission

During the calendar year 1929 the Canadian Board of Railway Commissioners held 50 public sittings at which 235 applications were heard. Of the 3,796 applications and complaints received by the Board 93 per cent were disposed of without the necessity of a formal hearing. The number of orders issued

(*Continued on page 888*)

# Revenues and Expenses of Railways

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1930

| Name of road | | Av. mileage operated during period. | Operating revenues: Freight. | Passenger. | Total (inc. misc.) | Operating expenses: Maintenance of Way and structures. | Maintenance of Equipment. | Traffic. | Transportation. | General. | Total. | Operating ratio. | Net from railway operation. | Operating income (or loss). | Net ry. operating income. | Net ry. operating income, 1929. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Akron, Canton & Youngstown | Feb. | 171 | $234,276 | $25 | $242,839 | $33,805 | $23,601 | $14,558 | $69,755 | $17,548 | $158,077 | 65.1 | $84,762 | $65,378 | $45,863 | $79,346 |
| | 2 mos. | 171 | 454,050 | 129 | 470,697 | 62,744 | 52,402 | 29,746 | 144,045 | 36,114 | 320,997 | 68.2 | 149,700 | 112,923 | 69,750 | 158,459 |
| Atchison, Topeka & Santa Fe | Feb. | 9,630 | 10,123,299 | 2,616,014 | 14,071,620 | 2,011,258 | 3,245,274 | 429,625 | 4,533,135 | 436,797 | 10,667,275 | 75.8 | 3,404,345 | 2,221,923 | 2,184,753 | 3,472,450 |
| | 2 mos. | 9,630 | 20,965,608 | 5,436,617 | 28,827,845 | 3,781,254 | 6,726,285 | 877,737 | 9,587,285 | 910,306 | 21,913,343 | 76.0 | 6,914,497 | 4,530,544 | 4,424,853 | 7,078,329 |
| Gulf, Colorado & Santa Fe | Feb. | 1,943 | 1,662,471 | 136,602 | 1,912,624 | 646,093 | 488,449 | 57,826 | 639,036 | 78,988 | 1,909,017 | 99.8 | 3,607 | —89,893 | —234,258 | 73,005 |
| | 2 mos. | 1,943 | 3,326,605 | 292,902 | 3,854,968 | 1,125,104 | 972,872 | 116,272 | 1,349,408 | 147,797 | 3,697,872 | 95.9 | 157,096 | —32,931 | —316,980 | 569,879 |
| Panhandle & Santa Fe | Feb. | 1,569 | 1,050,291 | 74,826 | 1,199,249 | 294,390 | 280,577 | 21,127 | 364,864 | 40,038 | 987,239 | 82.3 | 212,010 | 158,241 | 39,979 | 257,808 |
| | 2 mos. | 1,569 | 2,136,983 | 167,140 | 2,454,473 | 502,458 | 577,219 | 41,185 | 782,612 | 81,781 | 1,959,624 | 79.8 | 494,849 | 389,168 | 142,167 | 527,259 |
| Atlanta & West Point | Feb. | 93 | 131,347 | 43,175 | 199,717 | 22,701 | 38,306 | 11,913 | 76,609 | 11,871 | 167,012 | 83.6 | 32,705 | 18,188 | 7,453 | 20,502 |
| | 2 mos. | 93 | 274,812 | 93,498 | 419,545 | 41,368 | 75,281 | 24,677 | 160,706 | 23,266 | 335,548 | 80.0 | 83,997 | 55,037 | 31,596 | 40,484 |
| Western of Alabama | Feb. | 133 | 151,700 | 47,674 | 220,963 | 36,910 | 45,904 | 11,935 | 75,815 | 12,305 | 187,652 | 84.9 | 33,311 | 17,417 | 20,507 | 17,903 |
| | 2 mos. | 133 | 314,493 | 102,873 | 461,276 | 65,624 | 91,801 | 25,301 | 157,442 | 25,299 | 373,979 | 81.1 | 87,297 | 55,772 | 60,419 | 35,090 |
| Atlanta, Birmingham & Coast | Feb. | 639 | 280,000 | 15,421 | 335,318 | 76,674 | 74,327 | 28,493 | 144,278 | 18,057 | 353,225 | 105.3 | —17,907 | —32,946 | —49,870 | —32,296 |
| | 2 mos. | 639 | 561,997 | 35,147 | 675,436 | 169,515 | 156,078 | 58,834 | 297,483 | 38,890 | 742,819 | 109.9 | —67,383 | —97,718 | —126,192 | —73,778 |
| Atlantic Coast Line | Feb. | 5,154 | 4,168,556 | 1,727,435 | 6,482,232 | 842,762 | 1,077,694 | 183,598 | 2,002,546 | 177,618 | 4,382,797 | 67.6 | 2,099,435 | 1,598,064 | 1,408,562 | 2,126,900 |
| | 2 mos. | 5,154 | 8,361,629 | 3,141,678 | 12,684,383 | 1,696,300 | 2,196,087 | 370,632 | 4,134,465 | 356,475 | 8,952,052 | 70.6 | 3,732,331 | 2,704,609 | 2,419,121 | 3,583,591 |
| Charleston & Western Carolina | Feb. | 342 | 207,420 | 7,448 | 223,840 | 48,751 | 34,654 | 7,345 | 85,208 | 6,858 | 182,816 | 81.7 | 41,024 | 19,524 | 14,234 | 10,927 |
| | 2 mos. | 342 | 416,817 | 16,769 | 450,450 | 118,213 | 73,212 | 14,926 | 181,493 | 14,237 | 402,081 | 89.3 | 48,369 | 9,359 | 621 | 45,227 |
| Baltimore & Ohio | Feb. | 5,658 | 13,636,560 | 1,370,571 | 16,005,373 | 2,071,234 | 3,620,413 | 501,913 | 6,078,672 | 679,804 | 13,118,922 | 82.0 | 2,886,451 | 1,932,508 | 1,789,210 | 2,322,972 |
| | 2 mos. | 5,658 | 28,258,099 | 3,064,592 | 33,425,776 | 4,143,114 | 7,487,666 | 1,068,535 | 12,631,965 | 1,368,140 | 27,052,629 | 80.9 | 6,373,147 | 4,364,323 | 4,040,463 | 5,038,587 |
| Baltimore & Ohio Chic. Term | Feb. | 85 | ..... | ..... | 292,900 | 69,930 | 48,133 | 2,391 | 162,102 | 20,716 | 309,683 | 105.7 | —16,783 | —78,061 | 69,669 | 92,917 |
| | 2 mos. | 85 | ..... | ..... | 604,873 | 66,904 | 89,086 | 5,075 | 342,581 | 39,520 | 556,416 | 92.0 | 48,457 | —78,482 | 173,915 | 150,402 |
| Staten Island Rapid Transit | Feb. | 23 | 67,166 | 111,597 | 186,727 | 9,927 | 16,055 | 1,857 | 96,768 | 14,882 | 139,489 | 74.7 | 47,238 | 29,738 | 33,055 | —3,072 |
| | 2 mos. | 23 | 123,022 | 233,267 | 375,104 | 25,344 | 30,536 | 4,165 | 201,145 | 30,548 | 291,738 | 77.8 | 83,366 | 48,366 | 42,934 | —4,854 |
| Bangor & Aroostook | Feb. | 619 | 799,958 | 70,275 | 898,427 | 111,800 | 123,052 | 6,022 | 212,113 | 24,554 | 480,104 | 53.4 | 418,323 | 351,040 | 331,563 | 311,267 |
| | 2 mos. | 619 | 1,622,907 | 144,536 | 1,825,110 | 229,101 | 260,673 | 11,118 | 438,045 | 52,191 | 996,250 | 54.6 | 828,860 | 689,015 | 654,149 | 548,649 |
| Belt Ry. Co. of Chicago | Feb. | 48 | ..... | ..... | 579,489 | 44,437 | 53,418 | 3,672 | 282,520 | 12,407 | 396,454 | 68.4 | 183,035 | 125,331 | 158,594 | 142,517 |
| | 2 mos. | 48 | ..... | ..... | 1,208,644 | 101,641 | 141,224 | 8,058 | 592,832 | 23,819 | 867,574 | 71.8 | 341,070 | 230,509 | 302,437 | 307,419 |
| Bessemer & Lake Erie | Feb. | 227 | 599,856 | 5,475 | 621,869 | 58,335 | 305,818 | 13,501 | 224,325 | 36,997 | 641,872 | 103.2 | —20,003 | —44,957 | —8,339 | 51,610 |
| | 2 mos. | 227 | 1,227,825 | 12,105 | 1,273,004 | 122,717 | 650,944 | 28,003 | 466,727 | 73,193 | 1,346,354 | 105.8 | —73,350 | —130,457 | —53,950 | 97,686 |
| Bingham & Garfield | Feb. | 33 | 32,048 | ..... | 32,679 | Cr. 2,351 | 8,968 | 1,520 | 8,432 | 4,597 | 21,288 | 65.1 | 11,391 | 3,883 | 20,973 | 32,150 |
| | 2 mos. | 33 | 66,257 | ..... | 67,995 | Cr. 1,586 | 15,751 | 3,438 | 17,707 | 9,578 | 45,145 | 66.4 | 22,850 | 8,165 | 42,425 | 55,266 |
| Boston & Maine | Feb. | 2,090 | 3,758,162 | 1,213,725 | 5,671,888 | 815,486 | 922,849 | 89,825 | 2,101,115 | 196,917 | 4,149,783 | 73.2 | 1,522,105 | 1,252,667 | 1,003,075 | 1,012,681 |
| | 2 mos. | 2,090 | 7,596,820 | 2,532,927 | 11,579,522 | 1,850,247 | 1,884,243 | 178,008 | 4,379,030 | 425,535 | 8,765,846 | 75.7 | 2,813,676 | 2,299,136 | 1,819,630 | 1,910,192 |
| Brooklyn East. Dist. Term | Feb. | 11 | 103,629 | ..... | 105,887 | 5,299 | 13,864 | 70 | 34,541 | 5,790 | 59,564 | 56.3 | 46,323 | 39,162 | 39,162 | 43,739 |
| | 2 mos. | 11 | 221,163 | ..... | 225,997 | 12,672 | 32,143 | 759 | 72,203 | 11,365 | 129,142 | 57.1 | 96,855 | 82,322 | 82,322 | 85,985 |
| Buffalo & Susquehanna | Feb. | 253 | 123,325 | 740 | 132,047 | 28,233 | 45,531 | 1,850 | 41,406 | 7,765 | 124,785 | 94.5 | 7,262 | 5,182 | 18,626 | 33,728 |
| | 2 mos. | 253 | 262,394 | 1,755 | 283,323 | 58,294 | 105,794 | 3,977 | 87,471 | 15,649 | 271,185 | 95.7 | 12,138 | 7,983 | 38,032 | 88,998 |
| Buffalo, Rochester & Pittsburgh | Feb. | 601 | 1,170,809 | 57,197 | 1,265,624 | 112,942 | 369,730 | 36,082 | 496,200 | 43,856 | 1,060,706 | 83.8 | 204,918 | 164,855 | 171,782 | 238,530 |
| | 2 mos. | 601 | 2,442,040 | 126,388 | 2,646,634 | 264,412 | 786,007 | 74,787 | 1,031,412 | 91,849 | 2,252,619 | 85.1 | 394,015 | 313,952 | 358,341 | 489,489 |
| Canadian Pacific Lines in Maine | Feb. | 233 | 254,373 | 31,206 | 299,710 | 22,535 | 52,610 | 6,610 | 112,010 | 4,168 | 197,933 | 66.0 | 101,777 | 87,277 | 67,348 | 56,543 |
| | 2 mos. | 233 | 436,444 | 61,825 | 527,912 | 39,631 | 111,453 | 13,732 | 223,916 | 8,591 | 397,323 | 75.2 | 130,589 | 101,589 | 62,924 | 89,735 |
| Canadian Pacific Lines in Vermont | Feb. | 85 | 85,087 | 30,487 | 134,187 | 13,238 | 31,254 | 1,733 | 94,425 | 2,434 | 143,084 | 106.6 | —8,897 | —12,917 | —40,751 | —21,750 |
| | 2 mos. | 85 | 194,797 | 59,758 | 292,750 | 27,665 | 66,357 | 3,596 | 188,259 | 4,759 | 290,636 | 99.2 | 2,114 | —5,926 | —66,061 | —54,934 |
| Central of Georgia | Feb. | 1,944 | 1,365,049 | 325,606 | 1,886,508 | 230,290 | 334,579 | 72,519 | 719,818 | 81,125 | 1,456,443 | 77.2 | 430,065 | 307,809 | 304,378 | 304,658 |
| | 2 mos. | 1,944 | 2,714,282 | 618,155 | 3,726,192 | 424,332 | 659,959 | 141,342 | 1,478,971 | 167,317 | 2,905,457 | 78.0 | 820,735 | 578,253 | 582,345 | 595,767 |
| Central of New Jersey | Feb. | 692 | 3,221,206 | 648,469 | 4,097,287 | 435,149 | 971,496 | 60,049 | 1,634,855 | 128,408 | 3,255,711 | 79.5 | 841,576 | 665,779 | 520,729 | 697,674 |
| | 2 mos. | 692 | 6,718,623 | 1,346,127 | 8,547,552 | 852,361 | 1,956,795 | 127,631 | 3,447,957 | 274,918 | 6,713,834 | 78.5 | 1,833,718 | 1,447,307 | 1,178,779 | 1,401,429 |
| Central Vermont Ry., Inc. | Feb. | 469 | 449,222 | 76,620 | 585,173 | 66,128 | 108,161 | 15,747 | 261,622 | 26,564 | 480,285 | 82.1 | 104,883 | 88,890 | 112,071 | 133,351 |
| | 2 mos. | 469 | 891,572 | 169,015 | 1,181,571 | 152,779 | 213,833 | 34,216 | 544,945 | 55,269 | 1,005,264 | 85.1 | 176,307 | 144,314 | 191,931 | 233,406 |
| Chesapeake & Ohio | Feb. | 2,740 | 8,911,446 | 379,933 | 9,634,179 | 1,545,440 | 2,077,730 | 136,794 | 2,470,838 | 294,675 | 6,548,935 | 68.0 | 3,085,244 | 2,384,967 | 2,497,338 | 3,104,590 |
| | 2 mos. | 2,737 | 18,926,866 | 848,893 | 20,496,057 | 3,037,223 | 4,346,334 | 290,291 | 5,236,281 | 589,932 | 13,542,330 | 66.1 | 6,953,727 | 5,553,284 | 5,861,770 | 5,956,496 |
| Chicago & Alton | Feb. | 1,028 | 1,432,710 | 385,936 | 2,018,528 | 204,090 | 549,323 | 74,754 | 775,204 | 58,537 | 1,683,878 | 83.4 | 334,650 | 220,960 | 72,566 | 362,618 |
| | 2 mos. | 1,028 | 2,780,682 | 828,027 | 4,032,371 | 394,207 | 984,321 | 150,672 | 1,653,081 | 117,302 | 3,346,866 | 83.0 | 685,505 | 458,229 | 134,165 | 525,811 |
| Chicago & Eastern Illinois | Feb. | 946 | 1,343,476 | 227,451 | 1,706,049 | 223,565 | 421,611 | 84,270 | 722,318 | 70,134 | 1,534,503 | 89.9 | 171,546 | 50,652 | —112,062 | 154,146 |
| | 2 mos. | 946 | 2,782,790 | 507,906 | 3,580,389 | 454,721 | 850,302 | 116,225 | 1,541,973 | 144,572 | 3,178,085 | 88.8 | 402,304 | 160,874 | —143,460 | 328,692 |
| Chicago & Illinois Midland | Feb. | 131 | 213,071 | 6,768 | 228,080 | 39,261 | 62,410 | 18,403 | 74,588 | 16,842 | 211,427 | 92.6 | 16,653 | 8,318 | 309 | 55,654 |
| | 2 mos. | 131 | 459,309 | 15,190 | 494,106 | 64,853 | 120,068 | 38,561 | 166,136 | 35,379 | 424,770 | 85.9 | 69,336 | 52,666 | 36,528 | 103,396 |
| Chicago & North Western | Feb. | 8,458 | 7,371,360 | 1,413,237 | 9,895,110 | 922,076 | 2,273,277 | 199,804 | 4,145,283 | 397,675 | 7,997,977 | 80.8 | 1,897,133 | 1,119,809 | 868,348 | 1,182,872 |
| | 2 mos. | 8,458 | 14,910,577 | 3,211,533 | 20,369,239 | 2,016,167 | 4,717,104 | 424,392 | 8,811,117 | 806,112 | 16,847,936 | 82.7 | 3,521,303 | 1,964,481 | 1,488,057 | 1,809,687 |

# Revenues and Expenses of Railways

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1930—CONTINUED

| Name of road | | Av. mileage operated during period. | Operating revenues: Freight. | Passenger. | Total (inc. misc.) | Operating expenses: Maintenance of Way and structures. | Maintenance of Equipment. | Traffic. | Transportation. | General. | Total. | Operating ratio. | Net from railway operation. | Operating income (or loss). | Net ry. operating income. | Net ry. operating income, 1929. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chicago, Burlington & Quincy | Feb. | 9,367 | $8,834,665 | $1,203,469 | $11,139,019 | $829,846 | $1,532,358 | $318,233 | $3,861,960 | $357,020 | $7,008,419 | 62.9 | $4,130,600 | $3,170,280 | $2,879,518 | $3,778,263 |
| | 2 mos. | 9,367 | 17,847,401 | 2,597,089 | 22,675,763 | 1,884,764 | 3,392,095 | 647,217 | 8,387,169 | 753,959 | 15,260,593 | 67.3 | 7,415,170 | 5,447,339 | 4,969,034 | 6,647,588 |
| Chicago Great Western | Feb. | 1,495 | 1,450,045 | 168,520 | 1,749,081 | 147,020 | 289,099 | 80,509 | 749,546 | 55,218 | 1,331,536 | 76.1 | 417,545 | 322,897 | 166,414 | 36,054 |
| | 2 mos. | 1,495 | 2,924,257 | 375,884 | 3,567,614 | 297,633 | 585,638 | 163,061 | 1,604,074 | 113,162 | 2,785,608 | 78.1 | 782,006 | 603,791 | 290,853 | 81,792 |
| Chicago, Indianapolis & Louisville | Feb. | 647 | 1,037,175 | 113,215 | 1,259,378 | 120,515 | 270,337 | 38,240 | 480,621 | 35,849 | 956,319 | 75.9 | 303,059 | 224,801 | 96,272 | 123,405 |
| | 2 mos. | 647 | 2,057,440 | 262,503 | 2,555,394 | 253,340 | 546,178 | 77,895 | 1,010,980 | 74,525 | 1,984,992 | 77.7 | 570,402 | 415,846 | 162,941 | 235,644 |
| Chicago, Mil., St. Paul & Pacific | Feb. | 11,247 | 8,899,382 | 1,000,559 | 10,974,034 | 1,099,750 | 2,423,634 | 293,152 | 4,409,387 | 416,944 | 8,677,872 | 79.1 | 2,296,162 | 1,500,719 | 1,161,286 | 1,509,931 |
| | 2 mos. | 11,247 | 18,098,177 | 2,164,875 | 22,462,674 | 2,315,908 | 4,972,860 | 625,898 | 9,487,567 | 802,510 | 18,303,497 | 81.5 | 4,159,177 | 2,567,892 | 1,830,821 | 2,853,070 |
| Chicago River & Indiana | Feb. | 20 | ..... | ..... | 507,769 | 53,000 | 51,800 | 475 | 183,872 | 15,947 | 305,094 | 60.1 | 202,675 | 162,702 | 234,528 | 261,364 |
| | 2 mos. | 20 | ..... | ..... | 1,065,421 | 106,000 | 103,600 | 912 | 386,744 | 33,671 | 630,927 | 59.2 | 434,494 | 351,663 | 501,297 | 565,070 |
| Chicago, Rock Island & Pacific | Feb. | 7,592 | 7,367,140 | 1,307,427 | 9,572,941 | 1,294,429 | 1,951,929 | 245,086 | 3,744,193 | 358,151 | 7,696,333 | 80.4 | 1,876,608 | 1,330,249 | 929,463 | 1,236,939 |
| | 2 mos. | 7,592 | 14,494,184 | 2,819,859 | 19,155,392 | 2,527,485 | 4,149,995 | 515,809 | 7,915,606 | 727,798 | 16,069,952 | 83.9 | 3,085,440 | 1,993,099 | 1,187,230 | 2,489,488 |
| Chicago, Rock Island & Gulf | Feb. | 566 | 411,363 | 70,409 | 522,384 | 87,324 | 66,031 | 22,003 | 183,762 | 23,124 | 386,400 | 74.0 | 135,984 | 126,950 | 88,472 | 194,273 |
| | 2 mos. | 566 | 829,960 | 142,286 | 1,054,300 | 167,727 | 128,928 | 45,291 | 396,267 | 43,895 | 790,646 | 75.0 | 263,654 | 226,089 | 150,708 | 359,620 |
| Chic., St. Paul, Minn. & Omaha | Feb. | 1,746 | 1,545,807 | 258,757 | 1,949,153 | 219,547 | 371,006 | 39,130 | 866,896 | 81,435 | 1,589,185 | 81.5 | 359,968 | 253,423 | 184,541 | 68,545 |
| | 2 mos. | 1,746 | 3,285,485 | 541,153 | 4,121,540 | 431,786 | 771,960 | 82,324 | 1,907,992 | 168,829 | 3,386,430 | 82.2 | 735,110 | 514,333 | 391,469 | 122,419 |
| Clinchfield | Feb. | 309 | 484,374 | 10,744 | 505,470 | 60,511 | 133,392 | 21,336 | 110,185 | 17,296 | 342,811 | 67.8 | 162,659 | 92,640 | 184,216 | 290,587 |
| | 2 mos. | 309 | 1,039,076 | 22,988 | 1,081,539 | 113,825 | 268,082 | 43,216 | 231,464 | 36,034 | 692,827 | 64.1 | 388,712 | 248,682 | 431,852 | 565,078 |
| Colorado & Southern | Feb. | 1,040 | 728,141 | 60,493 | 858,412 | 123,866 | 157,055 | 18,550 | 303,000 | 43,471 | 648,509 | 75.5 | 209,903 | 140,018 | 117,499 | 199,932 |
| | 2 mos. | 1,037 | 1,544,708 | 136,767 | 1,836,790 | 215,006 | 336,431 | 36,204 | 654,814 | 88,837 | 1,332,757 | 72.6 | 504,033 | 364,022 | 319,237 | 356,152 |
| Ft. Worth & Denver City | Feb. | 696 | 619,775 | 105,830 | 782,119 | 123,013 | 197,214 | 18,949 | 255,972 | 38,057 | 631,666 | 80.8 | 150,453 | 113,018 | 100,438 | 238,013 |
| | 2 mos. | 696 | 1,262,232 | 245,455 | 1,624,560 | 213,181 | 364,882 | 39,033 | 554,508 | 78,564 | 1,253,711 | 77.2 | 370,949 | 286,222 | 262,993 | 583,367 |
| Wichita Valley | Feb. | 271 | 66,204 | 2,968 | 73,567 | 24,629 | 5,742 | 34 | 28,514 | 1,585 | 58,208 | 79.1 | 15,359 | 8,186 | —8,057 | 32,938 |
| | 2 mos. | 271 | 130,989 | 8,644 | 149,112 | 40,113 | 12,478 | 61 | 62,666 | 2,914 | 115,840 | 77.7 | 33,272 | 19,025 | —14,713 | 68,665 |
| Columbus & Greenville | Feb. | 167 | 122,478 | 13,106 | 144,345 | 24,277 | 19,813 | 4,202 | 53,451 | 11,554 | 113,102 | 78.4 | 31,243 | 26,466 | 19,807 | 9,526 |
| | 2 mos. | 167 | 255,139 | 34,274 | 308,008 | 51,372 | 41,098 | 8,394 | 112,722 | 24,925 | 238,316 | 77.4 | 69,692 | 56,910 | 48,204 | 22,418 |
| Conemaugh & Black Lick | Feb. | 23 | 63,343 | ..... | 129,117 | 9,528 | 22,550 | 846 | 80,070 | 3,857 | 116,581 | 90.3 | 12,536 | 11,536 | 12,122 | 12,301 |
| | 2 mos. | 23 | 122,729 | ..... | 252,926 | 19,609 | 47,234 | 1,836 | 158,670 | 7,146 | 234,495 | 92.7 | 18,431 | 16,431 | 19,740 | 24,185 |
| Delaware & Hudson | Feb. | 881 | 2,834,024 | 213,208 | 3,223,775 | 423,256 | 768,469 | 59,579 | 1,176,516 | 174,749 | 2,608,830 | 80.9 | 614,945 | 491,945 | 494,841 | 537,826 |
| | 2 mos. | 881 | 5,678,304 | 467,003 | 6,542,797 | 960,138 | 1,557,563 | 119,017 | 2,403,700 | 351,155 | 5,403,808 | 82.6 | 1,138,989 | 892,989 | 896,120 | 877,310 |
| Delaware, Lackawanna & Western | Feb. | 998 | 4,135,985 | 809,427 | 5,565,115 | 497,065 | 1,063,941 | 136,964 | 2,366,625 | 177,438 | 4,283,671 | 77.0 | 1,281,444 | 801,300 | 805,029 | 1,404,134 |
| | 2 mos. | 998 | 8,510,130 | 1,704,523 | 11,527,960 | 1,136,168 | 2,351,389 | 283,480 | 4,965,528 | 357,097 | 9,168,012 | 79.5 | 2,359,948 | 1,419,682 | 1,435,292 | 2,508,912 |
| Denver & Rio Grande Western | Feb. | 2,561 | 1,809,342 | 181,666 | 2,143,492 | 307,932 | 508,035 | 52,554 | 719,890 | 89,477 | 1,699,164 | 79.3 | 444,328 | 269,300 | 302,263 | 540,184 |
| | 2 mos. | 2,561 | 4,123,595 | 389,022 | 4,835,319 | 672,441 | 1,065,134 | 111,650 | 1,605,880 | 184,908 | 3,683,376 | 76.2 | 1,151,943 | 776,698 | 829,627 | 1,257,239 |
| Denver & Salt Lake | Feb. | 232 | 253,547 | 15,614 | 284,889 | 33,714 | 65,450 | 2,205 | 45,430 | 11,224 | 158,023 | 55.5 | 126,866 | 112,866 | 118,914 | 223,408 |
| | 2 mos. | 232 | 626,941 | 32,348 | 691,981 | 68,570 | 133,222 | 4,368 | 104,620 | 23,555 | 334,335 | 48.3 | 357,646 | 329,638 | 339,662 | 438,074 |
| Detroit & Mackinac | Feb. | 273 | 57,990 | 7,208 | 72,599 | 17,424 | 21,435 | 2,255 | 33,008 | 7,010 | 81,101 | 111.7 | —8,502 | —18,009 | —18,010 | —6,267 |
| | 2 mos. | 273 | 112,919 | 18,967 | 146,326 | 32,276 | 42,593 | 4,311 | 70,908 | 12,973 | 163,026 | 111.4 | —16,700 | —35,714 | —35,947 | —20,959 |
| Detroit & Toledo Shore Line | Feb. | 50 | 439,280 | ..... | 445,915 | 21,592 | 30,907 | 7,554 | 97,056 | 8,654 | 165,763 | 37.2 | 280,152 | 244,034 | 164,958 | 169,208 |
| | 2 mos. | 50 | 859,550 | ..... | 868,097 | 54,895 | 69,236 | 14,688 | 206,394 | 16,786 | 361,999 | 41.7 | 506,098 | 437,662 | 268,236 | 297,543 |
| Detroit Terminal | Feb. | 19 | ..... | ..... | 134,387 | 11,271 | 14,508 | ..... | 66,494 | 4,951 | 97,224 | 72.3 | 37,163 | 23,165 | 23,377 | 74,774 |
| | 2 mos. | 19 | ..... | ..... | 277,950 | 25,571 | 30,117 | ..... | 140,110 | 9,742 | 205,540 | 73.9 | 72,410 | 41,503 | 41,940 | 137,555 |
| Detroit, Toledo & Ironton | Feb. | 502 | 1,041,285 | 1,566 | 1,052,010 | 127,793 | 92,654 | 13,519 | 260,520 | 34,540 | 529,035 | 50.3 | 522,975 | 461,292 | 423,339 | 413,707 |
| | 2 mos. | 509 | 2,048,744 | 3,790 | 2,075,449 | 238,352 | 195,758 | 26,602 | 549,735 | 70,335 | 1,080,777 | 52.1 | 994,672 | 860,250 | 781,110 | 938,175 |
| Duluth & Iron Range | Feb. | | Included in Duluth, Missabe & Northern Ry. | | | | | | | | | | | | | |
| | 2 mos. | | Included in Duluth, Missabe & Northern Ry | | | | | | | | | | | | | |
| Duluth, Missabe & Northern | Feb. | 567 | 149,757 | 7,229 | 179,987 | 150,346 | 313,629 | 4,641 | 211,992 | 44,095 | 724,701 | 402.6 | —544,714 | —652,348 | —640,268 | —595,748 |
| | 2 mos. | 567 | 315,545 | 15,310 | 378,474 | 297,216 | 609,770 | 9,012 | 428,156 | 90,781 | 1,434,928 | 379.1 | —1,056,454 | —1,285,653 | —1,273,216 | —1,225,685 |
| Duluth, Winnipeg & Pacific | Feb. | 178 | 164,707 | 9,849 | 183,122 | 22,926 | 40,332 | 5,361 | 75,215 | 7,077 | 153,952 | 84.1 | 29,170 | 19,031 | 15,311 | 48,879 |
| | 2 mos. | 178 | 343,886 | 20,265 | 379,057 | 46,011 | 87,255 | 10,232 | 159,436 | 15,516 | 324,881 | 85.7 | 54,176 | 34,240 | 32,478 | 94,105 |
| Elgin, Joliet & Eastern | Feb. | 453 | 1,830,238 | 1 | 2,007,038 | 182,785 | 374,292 | 15,278 | 746,043 | 50,927 | 1,369,143 | 68.2 | 637,895 | 516,933 | 325,634 | 342,628 |
| | 2 mos. | 453 | 3,572,375 | 19 | 3,917,447 | 374,907 | 773,777 | 30,852 | 1,530,340 | 107,602 | 2,816,853 | 71.9 | 1,100,594 | 863,344 | 485,036 | 591,038 |
| Erie Railroad | Feb. | 2,046 | 6,622,409 | 720,166 | 7,978,675 | 777,578 | 1,855,317 | 173,573 | 3,204,416 | 307,162 | 6,358,218 | 79.7 | 1,620,457 | 1,220,967 | 1,152,185 | 1,467,226 |
| | 2 mos. | 2,046 | 13,025,942 | 1,523,287 | 15,864,934 | 1,568,144 | 3,868,209 | 367,921 | 6,555,131 | 610,618 | 13,039,691 | 82.2 | 2,825,243 | 2,026,126 | 1,902,502 | 2,769,800 |
| Chicago & Erie | Feb. | 269 | 1,016,786 | 39,339 | 1,130,553 | 111,662 | 112,240 | 29,486 | 355,602 | 39,454 | 648,336 | 57.3 | 482,217 | 424,054 | 159,045 | 174,766 |
| | 2 mos. | 269 | 2,056,374 | 97,521 | 2,306,708 | 215,212 | 232,498 | 61,497 | 743,624 | 91,320 | 1,343,575 | 58.2 | 963,133 | 846,788 | 289,095 | 321,475 |
| New Jersey & New York | Feb. | 45 | 24,128 | 88,655 | 116,610 | 12,817 | 19,252 | 1,566 | 62,534 | 3,729 | 99,878 | 85.7 | 16,732 | 12,392 | —19,679 | —28,657 |
| | 2 mos. | 45 | 44,829 | 180,391 | 233,990 | 24,755 | 51,331 | 3,117 | 131,802 | 7,495 | 218,479 | 93.4 | 15,511 | 6,800 | —58,942 | —49,564 |
| N. Y., Susquehanna & Western | Feb. | 131 | 300,312 | 37,278 | 369,819 | 43,866 | 47,230 | 5,060 | 174,115 | 12,907 | 283,137 | 76.6 | 86,682 | 55,132 | 26,785 | 40,876 |
| | 2 mos. | 131 | 614,909 | 77,478 | 756,201 | 84,750 | 95,534 | 10,430 | 359,504 | 24,964 | 575,099 | 76.1 | 181,102 | 117,983 | 65,711 | 92,135 |

# Revenues and Expenses of Railways

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1930—CONTINUED

| Name of road | | Av. mileage operated during period. | Operating revenues: Freight. | Passenger. | Total (inc. misc.) | Operating expenses: Maintenance of Way and structures. | Maintenance of Equipment. | Traffic. | Transportation. | General. | Total. | Operating ratio. | Net from railway operation. | Operating income (or loss). | Net ry. operating income. | Net ry. operating income, 1929. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Evansville, Indianap. & Terre Haute | Feb. | | Included in New York Central Lines. | | | | | | | | | | | | | |
| | 2 mos. | | Included in New York Central Lines. | | | | | | | | | | | | | |
| Florida East Coast | Feb. | 863 | $668,072 | $788,655 | $1,642,153 | $144,046 | $232,171 | $34,706 | $385,355 | $44,642 | $869,131 | 52.9 | $773,022 | $639,640 | $569,237 | $765,551 |
| | 2 mos. | 863 | 1,366,645 | 1,302,674 | 3,020,741 | 297,605 | 419,496 | 76,333 | 768,983 | 95,918 | 1,711,697 | 56.7 | 1,309,044 | 1,041,895 | 895,178 | 1,051,293 |
| Fort Smith & Western | Feb. | 249 | 108,324 | 9,106 | 123,505 | 23,946 | 26,245 | 5,666 | 41,270 | 6,555 | 103,097 | 83.5 | 20,408 | 15,669 | 6,525 | 2,570 |
| | 2 mos. | 249 | 223,799 | 17,387 | 256,179 | 44,381 | 50,914 | 11,553 | 88,551 | 13,835 | 2,084,432 | 81.4 | 47,747 | 38,288 | 20,561 | 29,761 |
| Galveston Wharf | Feb. | 13 | ..... | ..... | 120,245 | 40,638 | 5,535 | 4,243 | 27,196 | 5,178 | 95,469 | 79.4 | 24,776 | —224 | —286 | 47,253 |
| | 2 mos. | 13 | ..... | ..... | 969,043 | 78,590 | 11,002 | 7,867 | 56,557 | 11,125 | 192,828 | 71.7 | 76,215 | 26,215 | 26,508 | 144,429 |
| Georgia R. R. | Feb. | 328 | 288,940 | 35,294 | 353,975 | 41,370 | 77,186 | 22,394 | 164,016 | 22,443 | 327,777 | 92.6 | 26,198 | 17,438 | 30,685 | 62,658 |
| | 2 mos. | 328 | 603,144 | 83,699 | 745,709 | 81,749 | 157,011 | 45,258 | 343,290 | 44,457 | 672,083 | 90.1 | 73,626 | 54,460 | 85,278 | 113,903 |
| Georgia & Florida | Feb. | 501 | 108,072 | 6,365 | 123,082 | 22,670 | 21,737 | 9,836 | 48,791 | 8,247 | 111,507 | 90.6 | 11,575 | 1,875 | 2,271 | 3,909 |
| | 2 mos. | 501 | 193,454 | 13,892 | 223,378 | 48,520 | 45,063 | 19,555 | 102,542 | 16,327 | 232,460 | 104.1 | —9,082 | —28,470 | —26,595 | —6,740 |
| Grand Trunk Western | Feb. | 1,019 | 2,013,393 | 149,245 | 2,329,749 | 204,623 | 471,838 | 75,476 | 969,363 | 96,730 | 1,833,015 | 78.7 | 496,734 | 366,734 | 227,078 | 727,714 |
| | 2 mos. | 1,019 | 4,029,688 | 330,423 | 4,725,042 | 438,125 | 943,243 | 144,206 | 1,986,108 | 198,324 | 3,743,810 | 79.2 | 981,232 | 721,232 | 394,908 | 1,240,907 |
| Atlantic & St. Lawrence | Feb. | 166 | 157,603 | 22,101 | 199,763 | 20,643 | 43,145 | 6,361 | 99,027 | 8,516 | 178,936 | 89.5 | 20,827 | 6,547 | —57,375 | —67,346 |
| | 2 mos. | 166 | 307,826 | 46,492 | 390,552 | 50,945 | 87,300 | 12,073 | 203,696 | 15,829 | 372,561 | 95.4 | 17,991 | —11,189 | —127,170 | —164,605 |
| Great Northern | Feb. | 8,367 | 5,069,884 | 777,042 | 6,503,274 | 915,565 | 1,541,008 | 231,135 | 2,676,690 | 232,210 | 5,667,972 | 87.2 | 835,302 | 159,403 | 28,903 | 458,098 |
| | 2 mos. | 8,367 | 9,963,424 | 1,651,826 | 12,961,656 | 1,606,928 | 3,094,769 | 486,806 | 5,674,518 | 473,782 | 11,449,525 | 88.3 | 1,512,131 | 240,915 | 31,970 | 716,841 |
| Green Bay & Western | Feb. | 234 | 122,588 | 3,044 | 129,204 | 20,254 | 19,611 | 5,136 | 51,824 | 2,939 | 99,717 | 77.2 | 29,487 | 21,487 | 17,024 | 9,434 |
| | 2 mos. | 234 | 260,391 | 6,896 | 275,530 | 40,120 | 42,545 | 10,640 | 108,418 | 6,024 | 207,577 | 75.3 | 67,953 | 51,953 | 43,822 | 16,348 |
| Gulf & Ship Island | Feb. | 307 | 187,952 | 32,893 | 247,612 | 44,241 | 56,016 | 5,054 | 97,745 | 6,310 | 212,802 | 85.9 | 34,810 | 2,714 | —3,301 | —6,015 |
| | 2 mos. | 307 | 379,653 | 65,284 | 493,523 | 92,878 | 92,073 | 9,925 | 194,964 | 14,724 | 411,005 | 83.3 | 82,518 | 18,288 | —1,298 | 912 |
| Gulf, Mobile & Northern | Feb. | 733 | 415,790 | 24,618 | 464,070 | 86,732 | 98,275 | 36,921 | 165,454 | 33,408 | 421,054 | 90.73 | 43,016 | 15,602 | —13,745 | 61,136 |
| | 2 mos. | 733 | 885,949 | 55,021 | 988,155 | 175,706 | 198,018 | 71,120 | 342,150 | 63,932 | 851,510 | 86.17 | 136,645 | 79,722 | 21,579 | 151,192 |
| Hocking Valley | Feb. | 348 | 1,268,134 | 40,180 | 1,378,291 | 182,972 | 326,692 | 20,082 | 399,482 | 44,284 | 973,512 | 70.6 | 404,779 | 279,839 | 303,928 | 440,121 |
| | 2 mos. | 348 | 2,585,200 | 91,061 | 2,833,732 | 353,535 | 664,302 | 38,880 | 841,242 | 94,392 | 1,992,001 | 70.3 | 841,731 | 591,800 | 622,904 | 904,474 |
| Illinois Central | Feb. | 5,018 | 8,355,283 | 1,613,228 | 10,729,281 | 1,265,692 | 2,446,272 | 280,410 | 4,054,590 | 347,078 | 8,476,021 | 79.0 | 2,253,260 | 1,476,593 | 1,460,083 | 2,337,769 |
| | 2 mos. | 5,018 | 17,171,432 | 3,520,769 | 22,285,290 | 2,648,016 | 5,184,143 | 580,291 | 8,652,152 | 720,365 | 17,951,656 | 80.6 | 4,333,634 | 2,793,450 | 2,756,083 | 4,587,311 |
| Yazoo & Mississippi Valley | Feb. | 1,705 | 1,747,102 | 233,807 | 2,101,499 | 292,022 | 334,955 | 41,876 | 794,719 | 63,897 | 1,529,124 | 72.8 | 572,375 | 405,284 | 326,122 | 79,164 |
| | 2 mos. | 1,705 | 3,401,875 | 513,172 | 4,169,664 | 626,786 | 702,215 | 86,889 | 1,605,792 | 132,083 | 3,149,618 | 75.5 | 1,020,046 | 683,306 | 525,160 | 265,240 |
| Illinois Central System | Feb. | 6,724 | 10,114,001 | 1,850,986 | 12,846,348 | 1,557,714 | 2,785,079 | 322,286 | 4,857,801 | 411,085 | 10,017,599 | 78.0 | 2,828,749 | 1,884,158 | 1,788,486 | 2,418,283 |
| | 2 mos. | 6,724 | 20,597,055 | 4,042,512 | 26,487,275 | 3,274,802 | 5,894,108 | 667,180 | 10,275,339 | 852,668 | 21,126,639 | 79.8 | 5,360,636 | 3,481,701 | 3,286,188 | 4,855,135 |
| Illinois Terminal | Feb. | 477 | 399,275 | 107,027 | 529,212 | 51,089 | 78,907 | 15,851 | 202,710 | 32,690 | 379,519 | 71.71 | 149,693 | 125,693 | 82,514 | 43,477 |
| | 2 mos. | 477 | 831,521 | 228,012 | 1,106,604 | 111,109 | 161,404 | 31,720 | 433,642 | 65,927 | 801,450 | 72.42 | 305,154 | 257,154 | 166,740 | 178,780 |
| Kansas City Southern | Feb. | 784 | 1,138,895 | 73,070 | 1,340,860 | 133,093 | 236,806 | 57,445 | 412,447 | 76,602 | 918,394 | 68.5 | 422,466 | 308,676 | 246,868 | 243,562 |
| | 2 mos. | 784 | 2,307,231 | 147,565 | 2,716,728 | 276,118 | 469,191 | 117,934 | 880,639 | 158,583 | 1,906,675 | 70.2 | 810,053 | 582,546 | 480,405 | 534,477 |
| Texarkana & Ft. Smith | Feb. | 99 | 173,079 | 5,526 | 193,445 | 20,074 | 16,647 | 7,071 | 53,595 | 9,792 | 109,362 | 56.5 | 84,083 | 68,376 | 35,641 | 66,662 |
| | 2 mos. | 99 | 341,549 | 11,161 | 383,912 | 40,713 | 38,570 | 14,168 | 110,685 | 20,075 | 228,198 | 59.4 | 155,714 | 124,292 | 61,843 | 147,622 |
| Kansas, Oklahoma & Gulf | Feb. | 326 | 256,567 | 2,562 | 263,358 | 18,932 | 26,765 | 15,276 | 63,960 | 9,789 | 134,371 | 51.0 | 128,987 | 108,129 | 87,748 | 93,892 |
| | 2 mos. | 326 | 534,788 | 5,355 | 549,878 | 35,591 | 48,348 | 31,356 | 136,820 | 20,541 | 272,276 | 49.5 | 277,602 | 235,716 | 191,572 | 186,454 |
| Lake Superior & Ishpeming | Feb. | 160 | 56,857 | 1,366 | 62,114 | 18,465 | 25,580 | 575 | 32,934 | 6,057 | 83,611 | 134.6 | —21,497 | —34,364 | —38,741 | —25,007 |
| | 2 mos. | 160 | 115,201 | 2,976 | 126,446 | 42,922 | 55,583 | 1,143 | 68,010 | 12,535 | 180,193 | 142.5 | —53,747 | —79,481 | —89,005 | —79,763 |
| Lake Terminal | Feb. | 12 | ..... | ..... | 50,854 | 10,305 | 12,426 | ..... | 31,386 | 2,024 | 56,141 | 110.4 | —5,287 | —11,712 | —13,527 | —11,665 |
| | 2 mos. | 12 | ..... | ..... | 104,570 | 18,109 | 24,959 | ..... | 68,668 | 5,207 | 116,943 | 111.8 | —12,373 | —25,223 | —31,460 | —13,269 |
| Lehigh & Hudson River | Feb. | 96 | 169,016 | 1,156 | 180,465 | 26,657 | 30,951 | 3,657 | 68,560 | 8,721 | 138,546 | 76.8 | 41,919 | 30,317 | 16,424 | 16,207 |
| | 2 mos. | 96 | 347,481 | 2,192 | 371,198 | 69,423 | 61,764 | 7,009 | 143,474 | 18,169 | 299,839 | 80.8 | 71,359 | 49,236 | 20,257 | 54,363 |
| Lehigh & New England | Feb. | 216 | 336,286 | 859 | 342,214 | 39,952 | 83,054 | 4,759 | 127,974 | 16,837 | 272,576 | 79.7 | 69,638 | 58,534 | 63,027 | 58,136 |
| | 2 mos. | 216 | 693,773 | 1,788 | 705,940 | 80,890 | 165,962 | 14,471 | 269,598 | 34,854 | 565,775 | 80.1 | 140,165 | 118,837 | 122,877 | 122,513 |
| Lehigh Valley | Feb. | 1,361 | 4,215,473 | 431,359 | 4,997,645 | 301,146 | 1,167,315 | 137,487 | 2,209,643 | 143,138 | 3,986,561 | 79.8 | 1,011,084 | 721,024 | 642,444 | 861,325 |
| | 2 mos. | 1,361 | 8,499,165 | 940,408 | 10,192,612 | 629,214 | 2,371,053 | 282,643 | 4,528,616 | 311,130 | 8,180,504 | 80.3 | 2,012,108 | 1,440,074 | 1,242,210 | 1,464,690 |
| Louisiana & Arkansas | Feb. | 635 | 552,198 | 19,847 | 594,057 | 89,699 | 106,126 | 20,786 | 174,395 | 24,174 | 416,015 | 70.0 | 178,042 | 133,036 | 90,884 | 53,965 |
| | 2 mos. | 635 | 1,055,198 | 40,367 | 1,140,015 | 153,563 | 220,422 | 41,977 | 365,208 | 46,811 | 828,663 | 72.7 | 311,352 | 221,344 | 140,638 | 120,041 |
| Louisiana Ry. & Nav. Co. of Texas | Feb. | 206 | 71,311 | 2,240 | 76,519 | 23,090 | 19,669 | 2,593 | 38,638 | 5,653 | 90,072 | 117.7 | —13,553 | —17,555 | —31,255 | —16,775 |
| | 2 mos. | 206 | 151,185 | 4,960 | 161,892 | 44,330 | 37,127 | 5,810 | 83,871 | 11,257 | 182,822 | 112.9 | —20,930 | —28,957 | —57,707 | —32,517 |
| Louisville & Nashville | Feb. | 5,250 | 8,214,109 | 1,144,867 | 9,932,865 | 1,567,722 | 2,499,896 | 261,752 | 3,480,867 | 346,385 | 8,220,432 | 82.8 | 1,712,433 | 1,160,118 | 1,178,612 | 1,843,337 |
| | 2 mos. | 5,250 | 16,884,800 | 2,467,035 | 20,533,776 | 3,092,033 | 5,075,562 | 581,947 | 7,358,994 | 729,460 | 16,965,168 | 82.6 | 3,568,608 | 2,433,631 | 2,550,458 | 3,456,419 |
| Maine Central | Feb. | 1,121 | 1,274,418 | 205,269 | 1,582,985 | 209,971 | 274,202 | 14,155 | 627,993 | 48,228 | 1,175,512 | 74.3 | 407,473 | 309,960 | 254,521 | 258,217 |
| | 2 mos. | 1,121 | 2,643,844 | 453,287 | 3,332,299 | 432,210 | 590,076 | 30,675 | 1,306,004 | 102,657 | 2,463,601 | 73.9 | 868,698 | 673,671 | 541,261 | 412,227 |
| Midland Valley | Feb. | 363 | 220,734 | 7,465 | 235,565 | 22,043 | 38,882 | 5,538 | 62,261 | 9,750 | 136,634 | 58.0 | 98,931 | 84,744 | 74,505 | 85,481 |
| | 2 mos. | 363 | 434,330 | 16,729 | 467,265 | 41,211 | 73,121 | 11,785 | 137,271 | 22,406 | 283,685 | 60.7 | 183,580 | 154,902 | 122,737 | 185,775 |

Revenues and Expenses of Railways

# Revenues and Expenses of Railways

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1930—CONTINUED

| Name of road | | Av. mileage operated during period. | Operating revenues: Freight. | Passenger. | Total (inc. misc.) | Operating expenses: Maintenance of Way and structures. | Maintenance of Equipment. | Traffic. | Transportation. | General. | Total. | Operating ratio. | Net from railway operation. | Operating income (or loss). | Net ry. operating income. | Net ry. operating income, 1929. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Minneapolis & St. Louis | Feb. | 1,627 | $845,232 | $51,260 | $959,868 | $114,899 | $222,575 | $39,168 | $477,141 | $43,631 | $896,197 | 93.4 | $63,671 | $3,289 | —$36,274 | $37,796 |
| | 2 mos. | 1,627 | 1,712,827 | 110,308 | 1,944,270 | 211,627 | 453,645 | 77,780 | 1,016,913 | 88,979 | 1,847,885 | 95.0 | 96,385 | —29,170 | —119,840 | 60,010 |
| Minn., St. Paul & S. S. Marie | Feb. | 4,411 | 2,318,085 | 263,070 | 2,805,422 | 422,628 | 677,061 | 74,282 | 1,225,596 | 119,646 | 2,531,557 | 90.2 | 273,865 | 65,244 | —69,206 | 90,436 |
| | 2 mos. | 4,411 | 4,668,611 | 569,926 | 5,684,635 | 852,873 | 1,370,222 | 159,229 | 2,592,858 | 254,181 | 5,252,430 | 92.4 | 432,205 | —5,654 | —274,469 | 86,681 |
| Duluth, South Shore & Atlantic | Feb. | 573 | 285,462 | 34,544 | 337,877 | 43,208 | 62,167 | 8,618 | 148,007 | 10,299 | 274,662 | 81.3 | 63,215 | 32,215 | 19,522 | 34,066 |
| | 2 mos. | 573 | 562,999 | 84,750 | 684,553 | 87,432 | 135,819 | 16,918 | 315,395 | 21,638 | 581,608 | 85.0 | 102,947 | 40,946 | 12,497 | 19,269 |
| Spokane International | Feb. | 165 | 58,929 | 6,178 | 70,298 | 18,211 | 7,708 | 3,815 | 28,559 | 6,414 | 65,614 | 93.3 | 4,684 | —400 | —4,911 | 27,845 |
| | 2 mos. | 165 | 125,630 | 13,936 | 150,303 | 36,161 | 14,961 | 7,407 | 62,170 | 12,961 | 135,579 | 90.2 | 14,724 | 4,483 | —4,816 | 24,581 |
| Mississippi Central | Feb. | 150 | 104,148 | 4,805 | 112,650 | 17,494 | 24,712 | 9,906 | 34,019 | 8,442 | 94,573 | 84.0 | 18,077 | 12,019 | 12,461 | 24,807 |
| | 2 mos. | 150 | 212,118 | 10,685 | 231,083 | 34,366 | 50,869 | 20,517 | 69,597 | 17,668 | 193,017 | 83.5 | 38,066 | 25,604 | 27,576 | 53,027 |
| Missouri & North Arkansas | Feb. | 364 | 130,224 | 7,524 | 145,292 | 28,501 | 14,176 | 10,583 | 52,992 | 8,585 | 115,350 | 79.4 | 29,942 | 27,525 | 14,588 | 5,026 |
| | 2 mos. | 364 | 243,296 | 14,473 | 273,328 | 54,846 | 26,450 | 19,804 | 114,980 | 16,873 | 233,780 | 85.5 | 39,548 | 34,667 | 8,714 | —9,491 |
| Missouri-Illinois | Feb. | 202 | 134,749 | 2,093 | 141,248 | 18,685 | 32,790 | 3,900 | 41,876 | 5,718 | 102,864 | 72.8 | 38,384 | 30,584 | 22,308 | 26,498 |
| | 2 mos. | 202 | 274,182 | 4,696 | 286,078 | 32,596 | 74,216 | 7,697 | 93,760 | 13,294 | 221,445 | 77.4 | 64,633 | 50,033 | 38,395 | 54,242 |
| Missouri-Kansas-Texas Lines | Feb. | 3,188 | 2,656,523 | 471,142 | 3,415,594 | 457,930 | 679,630 | 120,765 | 1,181,479 | 166,553 | 2,624,111 | 76.8 | 791,483 | 589,908 | 378,568 | 784,172 |
| | 2 mos. | 3,188 | 5,487,518 | 980,740 | 7,068,660 | 919,363 | 1,347,700 | 245,318 | 2,526,916 | 353,786 | 5,431,346 | 76.8 | 1,637,314 | 1,225,290 | 796,902 | 1,631,737 |
| Missouri Pacific | Feb. | 7,452 | 8,124,057 | 979,282 | 9,915,082 | 1,159,380 | 1,687,638 | 310,630 | 3,586,307 | 370,815 | 7,140,511 | 72.0 | 2,774,571 | 2,293,825 | 1,853,773 | 1,739,584 |
| | 2 mos. | 7,452 | 16,307,419 | 2,062,452 | 20,046,313 | 2,286,526 | 3,513,767 | 653,531 | 7,702,470 | 773,345 | 14,967,972 | 74.7 | 5,078,341 | 4,158,645 | 3,300,554 | 3,452,573 |
| Gulf Coast Lines | Feb. | 1,026 | 1,213,301 | 136,194 | 1,424,605 | 235,878 | 224,196 | 47,638 | 396,896 | 60,269 | 942,725 | 66.17 | 481,880 | 432,940 | 328,821 | 239,654 |
| | 2 mos. | 1,026 | 2,540,118 | 284,522 | 2,966,888 | 457,017 | 457,000 | 104,353 | 803,556 | 124,893 | 1,926,428 | 64.93 | 1,040,460 | 944,579 | 726,892 | 435,573 |
| International-Great Northern | Feb. | 1,159 | 954,951 | 172,445 | 1,257,946 | 216,130 | 248,711 | 45,176 | 527,163 | 71,576 | 1,119,965 | 89.03 | 137,981 | 94,744 | 3,902 | 109,417 |
| | 2 mos. | 1,159 | 1,916,521 | 339,657 | 2,521,137 | 424,673 | 498,332 | 96,386 | 1,083,014 | 141,912 | 2,258,485 | 89.58 | 262,652 | 176,375 | 9,325 | 191,951 |
| San Antonio, Uvalde & Gulf | Feb. | 318 | 134,062 | 15,522 | 162,300 | 42,551 | 16,445 | 5,997 | 35,557 | 7,938 | 106,834 | 65.8 | 55,466 | 50,546 | 27,066 | 19,085 |
| | 2 mos. | 318 | 219,511 | 32,515 | 276,264 | 85,500 | 31,628 | 13,137 | 64,641 | 15,840 | 207,925 | 75.3 | 68,339 | 58,793 | 8,508 | 13,950 |
| Mobile & Ohio | Feb. | 1,159 | 1,032,178 | 66,734 | 1,169,027 | 175,004 | 225,746 | 58,189 | 457,275 | 47,132 | 963,409 | 82.4 | 205,618 | 120,322 | 68,177 | 111,492 |
| | 2 mos. | 1,159 | 2,039,718 | 150,862 | 2,327,684 | 349,504 | 459,144 | 118,174 | 948,305 | 105,939 | 1,978,870 | 85.0 | 348,814 | 175,886 | 76,320 | 218,972 |
| Monongahela | Feb. | 178 | 506,461 | 7,463 | 517,644 | 80,000 | 70,000 | 1,185 | 142,076 | 10,221 | 303,250 | 58.6 | 214,394 | 198,812 | 100,651 | 163,127 |
| | 2 mos. | 178 | 1,066,187 | 16,007 | 1,090,611 | 160,000 | 140,000 | 2,540 | 301,240 | 21,551 | 623,848 | 57.2 | 466,763 | 431,942 | 226,006 | 351,742 |
| Monongahela Connecting | Feb. | 6 | ..... | ..... | 170,913 | 20,315 | 33,313 | 300 | 82,558 | 2,949 | 139,435 | 81.6 | 31,478 | 23,773 | 15,972 | 29,432 |
| | 2 mos. | 6 | ..... | ..... | 342,766 | 40,002 | 66,241 | 627 | 164,431 | 5,764 | 277,065 | 80.8 | 65,701 | 50,117 | 35,004 | 61,157 |
| Montour | Feb. | 57 | 168,602 | 36 | 169,252 | 14,285 | 51,743 | 1,459 | 47,492 | 7,561 | 122,540 | 72.4 | 46,712 | 44,937 | 60,255 | 63,515 |
| | 2 mos. | 57 | 361,558 | 36 | 362,335 | 31,156 | 108,987 | 2,856 | 102,524 | 14,774 | 260,297 | 71.8 | 102,038 | 98,488 | 124,947 | 131,216 |
| Nashville, Chattanooga & St. Louis | Feb. | 1,203 | 1,245,850 | 226,396 | 1,606,512 | 229,960 | 338,876 | 88,210 | 607,365 | 83,878 | 1,358,046 | 84.5 | 248,465 | 189,313 | 189,881 | 386,136 |
| | 2 mos. | 1,203 | 2,500,712 | 461,037 | 3,268,768 | 438,854 | 717,177 | 189,996 | 1,267,543 | 165,862 | 2,803,437 | 85.8 | 465,330 | 342,108 | 345,664 | 629,973 |
| Nevada Northern | Feb. | 165 | 56,358 | 3,922 | 66,991 | 11,448 | 7,066 | 1,088 | 14,849 | 4,213 | 38,690 | 57.8 | 28,301 | 18,479 | 18,480 | 49,194 |
| | 2 mos. | 165 | 123,315 | 8,183 | 146,320 | 22,592 | 13,092 | 2,129 | 31,527 | 8,764 | 78,328 | 53.5 | 67,992 | 47,215 | 46,875 | 102,237 |
| Newburgh & South Shore | Feb. | 6 | ..... | ..... | 114,093 | 10,633 | 26,681 | ..... | 54,395 | 6,150 | 97,859 | 85.8 | 16,234 | 213 | 2,931 | 20,596 |
| | 2 mos. | 6 | ..... | ..... | 203,842 | 22,014 | 61,416 | ..... | 109,173 | 12,781 | 205,384 | 100.7 | —1,542 | —33,584 | —30,116 | 28,815 |
| New Orleans Great Northern | Feb. | 276 | 224,261 | 12,311 | 244,661 | 30,761 | 46,411 | 3,722 | 79,403 | 3,394 | 163,691 | 66.9 | 80,970 | 65,913 | 30,816 | 26,862 |
| | 2 mos. | 276 | 446,115 | 25,524 | 487,569 | 54,364 | 97,207 | 16,118 | 160,759 | 18,405 | 344,457 | 70.6 | 143,112 | 113,112 | 45,077 | 64,697 |
| New Orleans Terminal | Feb. | 20 | 1,753 | ..... | 148,645 | 14,455 | 8,974 | ..... | 51,541 | 1,571 | 76,541 | 51.5 | 72,104 | 60,846 | 52,993 | 48,389 |
| | 2 mos. | 20 | 2,933 | ..... | 255,476 | 32,026 | 19,649 | ..... | 107,392 | 3,303 | 162,370 | 63.6 | 93,106 | 70,591 | 57,196 | 70,196 |
| New York Central Lines | Feb. | 11,477 | 26,326,522 | 8,506,472 | 39,198,010 | 4,526,685 | 9,204,187 | 802,883 | 15,072,139 | 1,361,523 | 31,643,129 | 80.7 | 7,554,881 | 4,834,221 | 4,106,846 | 7,198,671 |
| | 2 mos. | 11,477 | 53,563,109 | 19,346,897 | 82,337,682 | 9,175,649 | 19,079,138 | 1,628,072 | 31,137,459 | 2,822,565 | 65,347,970 | 79.4 | 16,989,712 | 11,158,837 | 9,716,428 | 14,329,400 |
| Cincinnati Northern | Feb. | | Included in New York Central Lines. | | | | | | | | | | | | | |
| | 2 mos. | | Included in New York Central Lines. | | | | | | | | | | | | | |
| Cleve., Cinn., Chicago & St. Louis | Feb. | | Included in New York Central Lines. | | | | | | | | | | | | | |
| | 2 mos. | | Included in New York Central Lines. | | | | | | | | | | | | | |
| Indiana Harbor Belt | Feb. | 120 | ..... | ..... | 904,140 | 190,000 | 114,000 | 4,910 | 390,259 | 26,231 | 643,630 | 71.2 | 260,510 | 208,278 | 181,506 | 200,644 |
| | 2 mos. | 120 | ..... | ..... | 1,834,392 | 180,000 | 228,000 | 10,215 | 858,971 | 54,231 | 1,364,299 | 74.4 | 470,093 | 368,511 | 341,268 | 357,615 |
| Michigan Central | Feb. | | Included in New York Central Lines. | | | | | | | | | | | | | |
| | 2 mos. | | Included in New York Central Lines. | | | | | | | | | | | | | |
| Pittsburgh & Lake Erie | Feb. | 231 | 1,942,857 | 151,255 | 2,167,665 | 215,889 | 673,405 | 34,496 | 795,705 | 76,011 | 1,806,124 | 83.3 | 361,541 | 212,239 | 512,123 | 558,840 |
| | 2 mos. | 231 | 3,986,480 | 328,230 | 4,462,956 | 515,568 | 1,400,083 | 71,571 | 1,652,046 | 155,100 | 3,816,373 | 85.5 | 646,583 | 347,281 | 948,908 | 1,075,879 |
| New York, Chicago & St. Louis | Feb. | 1,690 | 3,656,748 | 128,343 | 3,922,376 | 415,804 | 805,098 | 132,980 | 1,497,535 | 135,001 | 2,991,446 | 76.3 | 930,930 | 712,094 | 481,303 | 884,042 |
| | 2 mos. | 1,690 | 7,452,314 | 285,306 | 8,021,352 | 844,983 | 1,617,072 | 267,560 | 3,138,583 | 284,036 | 6,159,475 | 76.8 | 1,861,877 | 1,424,342 | 969,642 | 1,540,396 |
| N. Y., New Haven & Hartford | Feb. | 2,133 | 4,988,530 | 3,449,968 | 9,499,424 | 1,035,436 | 1,553,927 | 101,092 | 3,195,088 | 311,343 | 6,390,115 | 67.3 | 3,109,309 | 2,439,333 | 1,904,612 | 1,912,938 |
| | 2 mos. | 2,133 | 10,233,963 | 7,230,056 | 19,681,762 | 2,174,128 | 3,261,980 | 208,011 | 6,721,761 | 664,835 | 13,429,874 | 68.2 | 6,251,888 | 4,911,733 | 3,786,980 | 3,781,070 |
| New York Connecting | Feb. | 20 | 197,337 | ..... | 217,124 | 8,024 | 10,437 | ..... | 26,936 | 2,277 | 47,674 | 22.0 | 169,450 | 131,450 | 103,332 | 110,309 |
| | 2 mos. | 20 | 396,351 | ..... | 439,963 | 23,982 | 17,984 | ..... | 63,338 | 4,039 | 109,343 | 24.9 | 330,620 | 254,620 | 196,771 | 63,918 |

# Revenues and Expenses of Railways

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1930—CONTINUED

| Name of road | | Av. mileage operated during period. | Operating revenues: Freight. | Passenger. | Total (inc. misc.) | Operating expenses: Maintenance of Way and structures. | Maintenance of Equipment. | Traffic. | Transportation. | General. | Total. | Operating ratio. | Net from railway operation. | Operating income (or loss). | Net ry. operating income. | Net ry. operating income, 1929. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New York, Ontario & Western | Feb. | 568 | $632,042 | $49,219 | $814,036 | $86,666 | $177,793 | $17,072 | $392,530 | $33,945 | $715,695 | 87.9 | $98,341 | $55,802 | $19,168 | —$19,618 |
| | 2 mos. | 568 | 1,327,105 | 87,730 | 1,686,566 | 181,229 | 355,248 | 36,110 | 820,667 | 72,724 | 1,481,342 | 87.8 | 205,224 | 120,098 | 41,035 | —53,587 |
| Norfolk & Western | Feb. | 2,240 | 8,193,137 | 317,831 | 8,805,560 | 1,098,511 | 1,684,744 | 126,729 | 2,082,060 | 248,711 | 5,261,373 | 59.8 | 3,544,187 | 2,643,854 | 2,895,098 | 3,088,752 |
| | 2 mos. | 2,240 | 16,585,903 | 730,103 | 17,909,066 | 2,214,016 | 3,479,606 | 252,908 | 4,351,454 | 507,857 | 10,872,102 | 60.7 | 7,036,964 | 5,236,043 | 5,748,154 | 5,999,391 |
| Norfolk Southern | Feb. | 932 | 468,896 | 19,011 | 527,382 | 81,085 | 88,313 | 28,245 | 222,956 | 26,413 | 445,262 | 84.4 | 82,120 | 29,290 | 15,673 | 54,967 |
| | 2 mos. | 932 | 954,314 | 44,365 | 1,076,493 | 161,896 | 176,316 | 57,297 | 461,167 | 56,266 | 911,026 | 84.6 | 165,467 | 60,023 | 36,326 | 105,205 |
| Northern Pacific | Feb. | 6,783 | 4,503,250 | 561,606 | 5,632,596 | 599,191 | 1,487,334 | 204,023 | 2,280,021 | 244,033 | 4,912,254 | 87.2 | 720,342 | 50,804 | 389,389 | 829,699 |
| | 2 mos. | 6,783 | 8,916,836 | 1,195,243 | 11,312,491 | 1,159,014 | 3,012,963 | 410,175 | 4,974,200 | 518,591 | 10,270,628 | 90.8 | 1,041,863 | —294,599 | 368,671 | 1,507,338 |
| Northwestern Pacific | Feb. | 476 | 232,853 | 107,844 | 376,970 | 96,467 | 104,934 | 7,248 | 186,223 | 14,186 | 408,884 | 108.5 | —31,914 | —68,344 | —72,558 | —73,190 |
| | 2 mos. | 476 | 454,600 | 215,902 | 739,860 | 198,033 | 205,132 | 15,619 | 391,382 | 32,159 | 841,718 | 113.8 | —101,858 | —174,744 | —180,565 | —185,484 |
| Pennsylvania R. R. | Feb. | 10,511 | 31,811,462 | 9,153,250 | 45,087,805 | 5,441,109 | 9,490,462 | 911,025 | 17,523,654 | 1,746,932 | 35,700,284 | 79.2 | 9,387,521 | 7,150,641 | 6,062,147 | 8,726,733 |
| | 2 mos. | 10,511 | 64,622,101 | 20,029,525 | 93,439,213 | 11,425,621 | 19,847,581 | 1,842,781 | 36,479,452 | 3,514,986 | 74,391,605 | 79.6 | 19,047,608 | 14,621,342 | 12,270,501 | 16,643,822 |
| Long Island | Feb. | 404 | 792,679 | 1,829,161 | 2,766,934 | 360,843 | 444,387 | 25,824 | 1,268,310 | 79,013 | 2,178,709 | 78.7 | 588,225 | 483,477 | 345,317 | 420,935 |
| | 2 mos. | 404 | 1,581,770 | 3,810,592 | 5,696,187 | 760,511 | 931,594 | 41,576 | 2,644,124 | 147,087 | 4,525,608 | 79.4 | 1,170,579 | 966,359 | 686,943 | 830,634 |
| West Jersey & Seashore | Feb. | 369 | 357,420 | 245,665 | 631,809 | 77,403 | 84,545 | 4,052 | 309,035 | 15,259 | 493,412 | 78.1 | 138,397 | 122,637 | 98,838 | 98,108 |
| | 2 mos. | 369 | 711,624 | 484,528 | 1,258,732 | 166,027 | 183,552 | 8,320 | 637,504 | 31,782 | 1,032,894 | 82.1 | 225,838 | 209,965 | 160,401 | 188,725 |
| Peoria & Pekin Union | Feb. | 19 | 12,560 | 1,082 | 139,059 | 14,143 | 15,234 | 5,533 | 64,913 | 8,250 | 108,073 | 77.7 | 30,986 | 13,986 | 30,358 | 45,582 |
| | 2 mos. | 19 | 29,615 | 2,750 | 286,724 | 29,061 | 29,026 | 10,639 | 137,336 | 16,389 | 222,451 | 77.6 | 64,273 | 29,944 | 60,471 | 89,102 |
| Pere Marquette | Feb. | 2,241 | 2,886,671 | 172,012 | 3,211,366 | 413,480 | 607,412 | 78,187 | 1,175,001 | 110,468 | 2,395,398 | 74.6 | 815,968 | 755,948 | 698,566 | 985,044 |
| | 2 mos. | 2,241 | 5,551,765 | 392,974 | 6,277,096 | 883,565 | 1,491,171 | 157,180 | 2,427,978 | 233,873 | 5,204,953 | 82.9 | 1,072,143 | 794,227 | 521,510 | 1,463,110 |
| Pittsburgh & Shawmut | Feb. | 102 | 89,889 | 3,598 | 94,295 | 13,427 | 25,890 | 1,777 | 30,205 | 6,390 | 77,689 | 82.4 | 16,606 | 15,329 | 17,629 | 48,453 |
| | 2 mos. | 102 | 206,553 | 8,118 | 216,557 | 28,583 | 53,549 | 3,374 | 66,777 | 14,208 | 166,491 | 76.9 | 50,066 | 47,502 | 54,103 | 103,259 |
| Pittsburgh & West Virginia | Feb. | 92 | 265,865 | 2,803 | 298,003 | 20,619 | 73,271 | 20,928 | 60,372 | 18,593 | 202,709 | 68.0 | 95,294 | 68,602 | 106,611 | 219,616 |
| | 2 mos. | 92 | 562,905 | 6,242 | 627,310 | 43,720 | 148,281 | 39,705 | 125,137 | 38,020 | 414,441 | 66.1 | 212,869 | 159,475 | 240,840 | 449,941 |
| Pittsburgh, Shawmut & Northern | Feb. | 198 | 130,817 | 1,075 | 135,209 | 18,206 | 26,832 | 1,832 | 44,949 | 6,006 | 97,825 | 72.3 | 37,384 | 34,582 | 27,755 | 38,514 |
| | 2 mos. | 198 | 271,503 | 2,381 | 280,842 | 39,642 | 53,170 | 3,455 | 95,608 | 12,388 | 204,263 | 72.7 | 76,579 | 70,868 | 58,540 | 71,148 |
| Quincy, Omaha & Kansas City | Feb. | 249 | 31,816 | 7,578 | 44,595 | 12,870 | 6,120 | 851 | 23,111 | 2,381 | 45,108 | 101.2 | —513 | —5,200 | —7,056 | —9,834 |
| | 2 mos. | 249 | 70,108 | 14,390 | 95,499 | 31,157 | 11,141 | 1,782 | 49,587 | 5,823 | 99,180 | 103.9 | —3,681 | —13,069 | —17,322 | —14,502 |
| Reading | Feb. | 1,460 | 6,501,291 | 541,959 | 7,420,880 | 1,065,021 | 1,840,441 | 92,119 | 2,841,593 | 209,692 | 6,073,171 | 81.8 | 1,347,709 | 1,073,961 | 1,046,061 | 1,377,234 |
| | 2 mos. | 1,460 | 13,080,174 | 1,148,304 | 15,024,513 | 2,160,200 | 3,798,635 | 189,727 | 5,888,445 | 447,861 | 12,533,189 | 83.4 | 2,491,324 | 1,920,159 | 1,917,326 | 2,722,251 |
| Atlantic City | Feb. | 163 | 105,688 | 61,686 | 182,057 | 63,494 | 16,460 | 4,651 | 147,236 | 4,926 | 236,936 | 130.1 | —54,879 | —94,879 | —107,022 | —117,581 |
| | 2 mos. | 163 | 227,945 | 129,150 | 388,980 | 135,933 | 41,721 | 7,174 | 316,169 | 9,910 | 511,262 | 131.4 | —122,282 | —202,282 | —233,887 | —259,104 |
| Richmond, Fredericksburg & Pot | Feb. | 117 | 426,304 | 379,085 | 990,110 | 85,764 | 172,796 | 10,236 | 341,648 | 38,515 | 682,882 | 69.0 | 307,228 | 252,221 | 186,299 | 266,245 |
| | 2 mos. | 117 | 862,021 | 765,160 | 1,983,620 | 172,895 | 356,606 | 21,851 | 698,962 | 78,229 | 1,385,085 | 69.8 | 598,535 | 491,526 | 351,142 | 499,082 |
| Rutland | Feb. | 413 | 247,645 | 78,667 | 408,495 | 71,386 | 92,886 | 11,154 | 175,566 | 16,339 | 367,863 | 90.1 | 40,632 | 20,120 | 28,533 | 40,422 |
| | 2 mos. | 413 | 486,191 | 168,718 | 842,174 | 156,789 | 200,540 | 23,595 | 362,229 | 34,407 | 779,939 | 92.6 | 62,235 | 26,681 | 44,357 | 74,843 |
| St. Louis-San Francisco | Feb. | 5,314 | 4,537,572 | 737,077 | 5,719,538 | 605,074 | 1,066,812 | 124,069 | 2,087,055 | 229,954 | 4,094,153 | 71.6 | 1,625,385 | 1,461,734 | 1,479,785 | 1,370,696 |
| | 2 mos. | 5,314 | 9,446,754 | 1,621,588 | 11,978,805 | 1,350,393 | 2,351,937 | 261,307 | 4,442,083 | 467,154 | 8,826,601 | 73.7 | 3,152,204 | 2,609,049 | 2,652,048 | 2,845,339 |
| Ft. Worth & Rio Grande | Feb. | 233 | 46,010 | 4,126 | 58,428 | 20,986 | 13,425 | 3,363 | 38,246 | 4,832 | 80,642 | 138.0 | —22,214 | —26,805 | —34,255 | —11,805 |
| | 2 mos. | 233 | 115,176 | 10,367 | 143,440 | 37,676 | 29,907 | 6,227 | 80,121 | 9,259 | 162,946 | 113.6 | —19,506 | —28,731 | —44,326 | —5,812 |
| St. Louis-San Francisco & Texas | Feb. | 154 | 108,003 | 10,281 | 124,044 | 18,174 | 18,504 | 5,389 | 51,629 | 7,216 | 100,903 | 81.3 | 23,143 | 20,144 | —6,486 | 5,929 |
| | 2 mos. | 154 | 222,618 | 20,895 | 254,835 | 38,435 | 41,537 | 11,361 | 107,067 | 15,490 | 214,132 | 84.0 | 40,703 | 34,277 | —19,976 | 345 |
| St. Louis Southwestern | Feb. | 1,010 | 1,164,713 | 52,906 | 1,289,327 | 137,531 | 206,434 | 86,778 | 396,960 | 62,446 | 904,212 | 70.1 | 385,115 | 335,992 | 193,646 | 370,059 |
| | 2 mos. | 1,010 | 2,258,611 | 111,380 | 2,519,247 | 295,743 | 445,282 | 168,639 | 818,496 | 136,410 | 1,881,349 | 74.7 | 637,898 | 558,395 | 286,201 | 710,330 |
| St. Louis Southwestern of Texas | Feb. | 806 | 458,611 | 30,066 | 548,343 | 144,594 | 115,832 | 28,926 | 251,072 | 33,330 | 582,459 | 106.2 | —34,116 | —62,635 | —44,404 | —166,500 |
| | 2 mos. | 806 | 930,301 | 63,965 | 1,114,431 | 301,959 | 250,103 | 56,213 | 537,558 | 70,454 | 1,236,042 | 110.9 | —121,611 | —178,993 | —139,489 | —276,328 |
| San Diego & Arizona | Feb. | 156 | 75,603 | 25,625 | 102,552 | 15,274 | 16,684 | 4,156 | 27,021 | 8,202 | 72,739 | 70.9 | 29,813 | 24,438 | 24,697 | 26,034 |
| | 2 mos. | 156 | 155,417 | 51,399 | 210,015 | 31,650 | 33,653 | 8,707 | 56,163 | 16,572 | 149,548 | 71.2 | 60,467 | 49,715 | 50,586 | 55,756 |
| Seaboard Air Line | Feb. | 4,506 | 3,390,349 | 862,082 | 4,743,393 | 631,868 | 780,847 | 209,807 | 1,650,154 | 174,153 | 3,463,997 | 73.0 | 1,279,396 | 932,453 | 827,346 | 969,398 |
| | 2 mos. | 4,502 | 6,974,181 | 1,742,025 | 9,660,639 | 1,244,380 | 1,593,508 | 424,949 | 3,410,534 | 353,019 | 7,129,033 | 73.8 | 2,531,606 | 1,853,979 | 1,634,863 | 1,809,388 |
| Southern Ry. | Feb. | 6,731 | 7,537,609 | 1,429,516 | 9,785,053 | 1,667,569 | 1,986,365 | 237,894 | 3,575,080 | 355,801 | 7,896,125 | 80.7 | 1,888,928 | 1,133,281 | 1,015,510 | 1,924,969 |
| | 2 mos. | 6,731 | 15,596,666 | 3,228,104 | 20,506,407 | 3,402,998 | 4,113,366 | 481,365 | 7,469,020 | 740,898 | 16,366,487 | 79.8 | 4,139,920 | 2,629,114 | 2,341,443 | 4,052,472 |
| Alabama Great Southern | Feb. | 314 | 522,020 | 99,996 | 668,634 | 128,065 | 164,204 | 20,117 | 212,538 | 22,822 | 553,613 | 82.0 | 115,021 | 65,649 | 74,954 | 136,580 |
| | 2 mos. | 314 | 1,069,753 | 215,356 | 1,381,525 | 263,194 | 344,532 | 41,490 | 458,136 | 48,633 | 1,168,202 | 84.6 | 213,323 | 119,795 | 137,082 | 300,267 |
| Cinn., New Orleans & Texas Pac. | Feb. | 338 | 1,301,238 | 226,306 | 1,615,620 | 295,095 | 352,070 | 38,736 | 492,748 | 50,765 | 1,243,840 | 77.0 | 371,780 | 292,230 | 292,779 | 354,197 |
| | 2 mos. | 338 | 2,585,213 | 489,935 | 3,255,039 | 577,322 | 723,361 | 80,940 | 981,894 | 107,117 | 2,498,978 | 76.8 | 756,061 | 585,755 | 594,746 | 739,011 |
| Georgia Southern & Florida | Feb. | 397 | 227,689 | 111,136 | 367,042 | 65,369 | 67,284 | 1,630 | 123,357 | 2,808 | 268,995 | 73.3 | 98,047 | 73,872 | 71,759 | 26,869 |
| | 2 mos. | 397 | 427,661 | 236,026 | 721,778 | 136,729 | 139,736 | 3,346 | 255,289 | 5,568 | 557,525 | 77.2 | 164,253 | 119,283 | 117,054 | 35,810 |
| New Orleans & Northeastern | Feb. | 204 | 293,052 | 51,114 | 367,806 | 56,813 | 67,846 | 11,259 | 119,787 | 13,533 | 272,615 | 74.1 | 95,191 | 51,648 | 15,245 | 53,631 |
| | 2 mos. | 204 | 596,801 | 107,181 | 751,947 | 123,250 | 136,591 | 22,996 | 247,663 | 27,765 | 565,359 | 75.2 | 186,588 | 100,678 | 17,780 | 117,419 |

# Revenues and Expenses of Railways

MONTH OF FEBRUARY AND TWO MONTHS OF CALENDAR YEAR 1930—CONTINUED

| Name of road | | Av. mileage operated during period. | Operating revenues: Freight. | Passenger. | Total (inc. misc.) | Operating expenses: Maintenance of Way and structures. | Maintenance of Equipment. | Traffic. | Transportation. | General. | Total. | Operating ratio. | Net from railway operation. | Operating income (or loss). | Net ry. operating income. | Net ry. operating income, 1929. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Northern Alabama | Feb. | 110 | $81,322 | $3,781 | $87,723 | $19,532 | $3,379 | $2,188 | $28,610 | $2,886 | $56,595 | 64.5 | 31,128 | 25,603 | 8,656 | 14,785 |
| | 2 mos. | 110 | 177,843 | 8,594 | 191,756 | 48,443 | 7,170 | 4,321 | 61,731 | 5,908 | 127,573 | [illegible] | [illegible] | 52,633 | 13,911 | 42,949 |
| Southern Pacific | Feb. | 9,120 | 10,657,664 | 2,829,236 | 14,666,468 | 1,761,635 | 2,780,307 | 432,843 | 4,989,663 | 643,674 | 10,837,535 | 73.9 | 3,828,933 | 2,502,450 | 2,292,492 | 3,009,386 |
| | 2 mos. | 9,125 | 21,231,543 | 6,008,502 | 29,749,308 | 3,747,491 | 5,903,321 | 838,732 | 10,574,476 | 1,331,309 | 22,896,793 | 77.0 | 6,852,515 | 4,300,276 | 3,811,095 | 5,513,926 |
| So. Pacific Steamship Lines | Feb. | .... | 595,947 | 34,986 | 677,177 | 20,343 | 180,367 | 21,776 | 459,238 | 88,831 | 770,555 | 113.8 | —93,378 | —94,758 | —93,001 | 28,637 |
| | 2 mos. | .... | 1,178,641 | 73,429 | 1,341,632 | 36,935 | 354,989 | 45,820 | 935,509 | 119,360 | 1,492,613 | 111.2 | —150,981 | —153,672 | —148,943 | —10,535 |
| Texas & New Orleans | Feb. | 4,721 | 3,894,375 | 772,493 | 5,068,603 | 918,707 | 976,932 | 172,587 | 1,704,348 | 262,192 | 4,024,641 | [illegible] | [illegible] | 729,683 | 467,216 | 671,732 |
| | 2 mos. | 4,721 | 7,914,847 | 1,604,021 | 10,336,230 | 1,859,406 | 2,153,735 | 342,439 | 3,602,775 | 531,150 | 8,500,917 | 82.2 | 1,835,313 | 1,228,936 | 698,133 | 1,082,142 |
| Spokane, Portland & Seattle | Feb. | 554 | 447,349 | 62,742 | 561,541 | 68,363 | 96,982 | 11,484 | 201,992 | 22,459 | 406,043 | 72.3 | 155,498 | 68,359 | 55,670 | 153,498 |
| | 2 mos. | 554 | 903,547 | 137,406 | 1,155,351 | 126,947 | 198,465 | 23,408 | 441,852 | 46,172 | 847,855 | 73.4 | 307,496 | 133,264 | 101,402 | 289,214 |
| Tennessee Central | Feb. | 296 | 215,282 | 9,547 | 238,129 | 56,882 | 57,013 | 8,944 | 88,291 | 13,822 | 224,584 | 94.3 | 13,545 | 8,684 | —7,840 | 26,115 |
| | 2 mos. | 296 | 435,342 | 20,764 | 483,361 | 99,259 | 100,681 | 19,007 | 184,061 | 28,257 | 430,549 | 89.1 | 52,812 | 42,151 | 9,962 | 46,574 |
| Terminal R. R. Assn. of St. Louis | Feb. | 55 | ..... | ..... | 819,170 | 132,324 | 95,087 | 2,537 | 390,572 | 31,521 | 655,140 | 80.0 | 164,030 | 122,784 | 205,926 | 275,632 |
| | 2 mos. | 55 | ..... | ..... | 1,742,038 | 252,972 | 194,677 | 5,880 | 864,063 | 61,441 | 1,386,292 | 79.6 | 355,746 | 228,655 | 412,917 | 577,727 |
| Texas & Pacific | Feb. | 1,955 | 2,509,625 | 381,319 | 3,108,265 | 446,175 | 512,989 | 79,969 | 1,007,855 | 120,446 | 2,171,875 | 69.9 | 936,390 | 750,805 | 553,442 | 470,413 |
| | 2 mos. | 1,955 | 4,992,834 | 817,531 | 6,252,688 | 1,003,366 | 1,119,246 | 176,664 | 2,165,831 | 253,389 | 4,731,146 | 75.7 | 1,521,542 | 1,150,520 | 735,968 | 1,038,698 |
| Texas Mexican | Feb. | 162 | 72,016 | 3,565 | 87,399 | 14,372 | 16,289 | 3,522 | 38,677 | 6,738 | 78,912 | 90.3 | 8,487 | 3,468 | —3,342 | —11,828 |
| | 2 mos. | 162 | 138,407 | 6,385 | 168,949 | 32,149 | 32,125 | 8,217 | 78,352 | 14,102 | 164,449 | 97.3 | 4,500 | —5,521 | —21,141 | —4,927 |
| Toledo, Peoria & Western | Feb. | 239 | 154,609 | 304 | 157,885 | 20,236 | 26,730 | 13,649 | 70,088 | 8,484 | 139,187 | 88.2 | 18,698 | 16,129 | 6,228 | 52,113 |
| | 2 mos. | 239 | 301,365 | 677 | 308,100 | 43,443 | 56,706 | 26,935 | 145,312 | 17,761 | 290,157 | 94.2 | 17,943 | 14,670 | —4,067 | 95,132 |
| Toledo Terminal | Feb. | 28 | ..... | ..... | 104,232 | 2,408 | 15,417 | 600 | 41,617 | 4,767 | 64,804 | 62.2 | 39,428 | 23,928 | 54,842 | 65,333 |
| | 2 mos. | 28 | ..... | ..... | 214,319 | 10,085 | 34,504 | 1,195 | 94,507 | 9,874 | 150,149 | 70.1 | 64,170 | 33,170 | 87,636 | 114,964 |
| Trinity & Brazos Valley | Feb. | 367 | 126,745 | 5,722 | 139,622 | 99,137 | 43,199 | 5,849 | 67,037 | 12,231 | 221,981 | 159.0 | —82,359 | —90,169 | —116,835 | —10,407 |
| | 2 mos. | 367 | 294,759 | 11,634 | 325,378 | 193,708 | 78,277 | 12,687 | 147,709 | 24,791 | 446,482 | 137.2 | —121,104 | —137,136 | —192,447 | —31,151 |
| Ulster & Delaware | Feb. | 128 | 21,122 | 1,927 | 53,417 | 9,814 | 13,493 | 1,189 | 32,647 | 4,078 | 61,221 | 114.6 | —7,804 | —11,104 | —12,106 | —15,541 |
| | 2 mos. | 128 | 40,673 | 4,589 | 108,091 | 22,346 | 27,871 | 2,371 | 66,734 | 8,151 | 127,473 | 117.9 | —19,382 | —25,982 | —27,600 | —31,630 |
| Union R. R. of Penna. | Feb. | 45 | ..... | ..... | 627,969 | 56,743 | 146,595 | 171 | 313,391 | 15,005 | 531,903 | 84.7 | 96,066 | 59,466 | 112,084 | 87,415 |
| | 2 mos. | 45 | ..... | ..... | 1,257,175 | 117,623 | 314,801 | 322 | 642,114 | 30,090 | 1,104,784 | 87.9 | 152,391 | 79,191 | 196,033 | 228,368 |
| Union Pacific | Feb. | 3,765 | 5,496,964 | 831,414 | 7,009,746 | 539,097 | 1,694,320 | 163,037 | 2,274,941 | 336,395 | 5,134,178 | 73.2 | 1,875,568 | 1,162,275 | 1,061,406 | 2,163,003 |
| | 2 mos. | 3,765 | 11,482,102 | 1,811,495 | 14,667,825 | 1,059,240 | 3,467,520 | 323,557 | 4,877,213 | 670,436 | 10,668,308 | 72.7 | 3,999,517 | 2,572,879 | 2,359,650 | 4,075,933 |
| Oregon Short Line | Feb. | 2,538 | 2,117,857 | 221,309 | 2,516,864 | 263,512 | 462,704 | 49,004 | 795,390 | 124,939 | 1,729,058 | 68.7 | 787,806 | 486,057 | 402,220 | 784,667 |
| | 2 mos. | 2,538 | 4,397,749 | 492,727 | 5,248,058 | 540,816 | 914,955 | 100,996 | 1,707,141 | 249,819 | 3,588,768 | 68.4 | 1,659,290 | 1,055,683 | 888,267 | 1,534,087 |
| Oregon-Wash. R. R. & Nav. Co. | Feb. | 2,364 | 1,551,600 | 174,539 | 1,898,338 | 266,079 | 309,623 | 69,159 | 781,772 | 123,997 | 1,576,306 | 83.0 | 322,032 | 128,667 | 40,357 | 10,843 |
| | 2 mos. | 2,364 | 3,051,280 | 381,106 | 3,802,166 | 520,920 | 621,264 | 147,048 | 1,657,308 | 248,396 | 3,250,562 | 85.5 | 551,604 | 164,721 | —19,385 | 2,095 |
| Los Angeles & Salt Lake | Feb. | 1,229 | 1,420,098 | 242,056 | 1,822,273 | 304,001 | 332,961 | 70,673 | 591,636 | 82,526 | 1,441,474 | 79.1 | 380,799 | 213,276 | 93,176 | 305,162 |
| | 2 mos. | 1,229 | 2,954,565 | 561,299 | 3,845,666 | 578,151 | 667,340 | 142,938 | 1,274,678 | 167,513 | 2,958,658 | 76.9 | 887,008 | 543,962 | 298,502 | 590,711 |
| St. Joseph & Grand Island | Feb. | 258 | 279,306 | 7,154 | 296,559 | 24,509 | 34,280 | 3,361 | 95,529 | 16,129 | 175,158 | 59.1 | 121,401 | 98,856 | 79,668 | 73,803 |
| | 2 mos. | 258 | 538,427 | 16,186 | 574,523 | 49,289 | 67,980 | 6,897 | 199,568 | 31,929 | 357,848 | 62.3 | 216,675 | 174,074 | 137,927 | 148,013 |
| Utah | Feb. | 111 | 146,563 | ..... | 147,988 | 16,970 | 36,815 | 370 | 40,595 | 5,936 | 100,686 | 68.0 | 47,302 | 40,011 | 18,695 | 79,026 |
| | 2 mos. | 111 | 417,352 | ..... | 420,959 | 48,515 | 83,971 | 726 | 105,683 | 13,324 | 252,219 | 59.9 | 168,740 | 138,649 | 89,869 | 176,954 |
| Virginian | Feb. | 545 | 1,429,132 | 26,375 | 1,538,541 | 160,274 | 291,721 | 14,008 | 310,252 | 31,096 | 808,363 | 52.5 | 730,178 | 565,178 | 645,533 | 742,376 |
| | 2 mos. | 545 | 3,185,739 | 54,814 | 3,412,286 | 314,268 | 590,395 | 28,226 | 662,676 | 63,134 | 1,661,746 | 48.7 | 1,750,540 | 1,388,540 | 1,543,558 | 1,593,902 |
| Wabash | Feb. | 2,523 | 4,363,575 | 458,159 | 5,177,706 | 545,860 | 921,813 | 187,557 | 2,159,175 | 235,191 | 4,069,414 | 78.6 | 1,108,292 | 861,309 | 506,214 | 1,179,623 |
| | 2 mos. | 2,523 | 8,742,351 | 1,007,279 | 10,477,740 | 967,487 | 1,906,054 | 390,057 | 4,523,660 | 501,800 | 8,332,990 | 79.5 | 2,144,750 | 1,659,646 | 936,119 | 1,996,805 |
| Ann Arbor | Feb. | 293 | 405,220 | 10,770 | 427,641 | 38,769 | 84,944 | 14,201 | 179,853 | 12,020 | 330,036 | 77.2 | 97,605 | 71,514 | 43,291 | 106,608 |
| | 2 mos. | 293 | 778,575 | 25,122 | 827,413 | 68,813 | 169,276 | 28,949 | 362,940 | 24,199 | 653,867 | 79.0 | 173,546 | 121,202 | 59,615 | 153,748 |
| Western Maryland | Feb. | 896 | 1,419,989 | 18,321 | 1,480,636 | 187,729 | 305,106 | 38,239 | 404,692 | 39,336 | 980,488 | 66.2 | 500,148 | 420,148 | 457,250 | 413,629 |
| | 2 mos. | 891 | 2,909,772 | 39,460 | 3,043,563 | 387,006 | 595,295 | 85,184 | 853,089 | 86,723 | 2,014,072 | 66.2 | 1,029,491 | 859,491 | 919,961 | 821,900 |
| Western Pacific | Feb. | 1,051 | 849,633 | 60,578 | 961,221 | 221,471 | 265,733 | 65,497 | 419,463 | 44,591 | 1,031,832 | 107.3 | —70,611 | —172,736 | —127,400 | 67,018 |
| | 2 mos. | 1,051 | 1,871,379 | 113,328 | 2,101,108 | 428,135 | 536,590 | 133,030 | 906,127 | 94,074 | 2,139,419 | 101.8 | —38,311 | —242,328 | —158,903 | 202,870 |
| Wheeling & Lake Erie | Feb. | 511 | 1,217,560 | 16,610 | 1,305,054 | 131,242 | 368,363 | 35,971 | 412,602 | 45,407 | 994,899 | 76.2 | 310,155 | 193,696 | 200,833 | 364,139 |
| | 2 mos. | 511 | 2,441,245 | 37,252 | 2,622,091 | 243,066 | 698,322 | 75,069 | 841,486 | 94,449 | 1,954,961 | 74.6 | 667,130 | 423,198 | 430,626 | 683,018 |
| Wichita Falls & Southern | Feb. | 203 | 70,461 | 415 | 75,510 | 14,982 | 10,344 | 2,917 | 27,222 | 6,442 | 61,907 | 81.99 | 13,603 | 8,408 | 2,557 | 6,400 |
| | 2 mos. | 203 | 137,259 | 1,204 | 146,830 | 28,005 | 21,254 | 5,992 | 54,730 | 11,779 | 121,760 | 82.93 | 25,070 | 14,378 | 2,734 | 30,678 |

# News of the Week

(*Continued from page 881*)

by the Board during the year was 2,144. Three cases were appealed from the Board to the Supreme Court of Canada during the year and one to the federal Cabinet, or Privy Council, regarding rates on grain and flour and grain products in British Columbia. In the 12 months there were filed with the Board 32,715 freight tariffs, 7,489 passenger tariffs, 5,025 express tariffs, 1,746 telephone tariffs, 68 sleeping and parlor car tariffs, and 6 telegraph tariffs. The number of tariffs filed from February 1, 1904, to the end of last year was 1,578,238.

In 1929 there were 2,780 accidents reported to the Board, in which 426 persons were killed and 2,954 injured, as compared with 3,013 accidents in the previous year, covering 445 persons killed and 3,193 injured. The figures show as follows:—

1. Eighteen passengers killed during the year 1928 and 16 passengers killed during 1929. The number of passengers injured was 301 in 1928, as compared with 349 in 1929;

2. One hundred and nine employees killed in 1928 and 105 in 1929, and 2,171 employees injured in 1928, as compared with 1,891 in 1929;

3. Three hundred and eighteen others killed in 1928 and 305 in 1929, and 721 others injured in 1928, and 714 in 1929.

Of the 305 others killed 142, or 46 per cent were trespassers, and out of the 714 others injured 136, or 19 per cent were trespassers.

Crossings protected by gates accounted for 17 persons killed and 69 injured. Crossings protected by bell accounted for 90 killed and 261 injured. Crossings protected by watchman accounted for 8 killed and 62 injured, and crossings unprotected accounted for 502 killed and 1,762 injured.

There have been 336 accidents at protected crossings, covering 115 persons killed and 392 injured, and at unprotected crossings there have been 1,283 accidents, covering 502 persons killed and 1,762 injured.

The railways reported as having been responsible for the origin of 820 fires in forest lands, burning over an area of 29,667 acres, with forest and other property loss valued at $40,958. Of the area burned only 5,634 acres were young forest growth and 1,686 acres merchantable timber, the balance being slashing or old burn not restocking or non-forest lands. Under the Board's supervision 5,916 miles of fire guards were constructed by the railways in uncultivated lands in non-forest portions of the prairie provinces, in addition to a large mileage in cultivated lands for the protection of crops and buildings. Officers of the fire inspection department made 4,435 inspections of fire protective appliances on locomotives and found 2.75 per cent defective. The railways maintained a special patrol organization on 7,978 miles of track, involving the part time or full time services of 1,012 employees of railways.

# *Traffic*

The Pullman Company has made a reduction of 22 per cent in the rate on a section in a sleeping car when occupied by only one passenger, to go into effect on May 1.

The Interstate Commerce Commission has assigned for hearing at New York on May 1 fourth-section applications filed by eastern railroads for authority to maintain extra fares on fast trains without observing the aggregate-of-intermediates provision of the fourth-section of the interstate commerce act.

The Louisiana Public Service Commission has issued an order directing the establishment of joint rail and water rates on freight between the New Orleans territory and that section of Northern Louisiana served by the Yazoo & Mississippi Valley. The Commission directed the Louisiana & Arkansas Barge Service, Inc., and the railroad jointly to publish the combination rates based on 85 per cent of the corresponding intra-state all-rail rate between the same points, effective for all commodities in carload lots between New Orleans and its sub-ports and the district named.

Railroads serving the southern coal district have filed with the Interstate Commerce Commission a motion to dismiss the complaints filed by the Ohio and Pennsylvania district coal operators which attack the rates from the southern district to Lake Erie ports on lake cargo coal. The railroads ask for oral argument on their motion and assert that the complaints are insufficient in law because it will be shown affirmatively that complainants are not injured by reason of the rate relationship complained of; the rates from the southern district which are alleged to be unduly preferential are higher than the rates from the districts in which complainants are located.

## Freight Robberies Reduced 20 P. C. in Year

A reduction of better than 94 per cent in the annual total of losses due to robberies is the record established by the special agents (police) of the railways during the period from 1920 to 1929. In 1920, robbery losses totaled $12,726,000, while in 1929 they amounted to only $704,267. In 1927 the total was $1,151,136 and 1928 it was $887,720. The 1929 figures represent a decrease of 20.7 per cent or $183,453 as compared with 1928, although there was an increase of 2.4 per cent in the total payments for losses and damages from all causes.

The loss due to robberies in 1929 amounted to about one cent per $100 of freight revenue, or 1.4 cents per carload.

Coincident with the reduction in losses due to theft, there has been a decrease in unlocated and concealed loss which must be ascribed in large part to robbery. In 1921, unlocated and concealed loss amounted to $22,024,437, while in 1929 the total was only $3,261,683. In comparison with 1928, there was a reduction of 10 per cent or $353,174. During 1929 a total of 95,482 arrests were made, of which 9,204 were for felonies and 86,278 for misdemeanors. The convictions totaled 82,452, or 97.4 per cent.

## Deepening of Illinois River

The House committee on rivers and harbors has adopted, for inclusion in the forthcoming rivers and harbors bill, a project recommended by Maj. Gen. Lytle Brown, chief of engineers of the Army, for the completion by the federal government of the improvement of the Illinois river from Utica to Lockport, Ill., to a depth of nine feet, by means of dams, locks and lateral canals, at an estimated cost of $7,500,000. This waterway is part of the lakes-to-the-Gulf route on which the State of Illinois has expended the proceeds of a $20,000,000 bond issue.

## C. N. R. to Have Fastest Long Distance Train in World

The Canadian National, beginning April 27, will operate its International Limited between Montreal and Toronto, 334 miles, in six hours, making the rate of speed 55⅔ miles an hour. The train westbound will leave Montreal at 3 p.m. and arrive in Toronto at nine. The train will reach Chicago at 8:15 the next morning. Eastbound schedules will be correspondingly quickened. At present, the time from Montreal to Toronto is 7 hours, 40 minutes and the time through to Chicago will be reduced from 22 hours, 25 minutes, to 18 hours, 15 minutes.

Under the new timetable, there will be two trains a day in each direction between Montreal and Chicago in addition to the International Limited. New service will be provided also to and from Detroit.

## Freight Claim Payments

Freight damage claims paid in 1929 by the railroads of the United States and Canada totaled $37,432,966, according to reports for the year received from the carriers by the Freight Claim Division of the American Railway Association. This was an increase of $875,723 or 2.4 per cent above the amount paid in 1928 but a reduction of $1,280,093 or 3.3 per cent under 1927, and of $59,297,410 or 61.3 per cent under that for 1921, when it totaled $96,730,376.

On the basis of the total number of cars loaded with revenue freight, claims paid by the railroads in 1929 averaged 68 cents a car, compared with 68 cents in 1928 and $2.35 in 1921. The railroads in 1929 paid 74.7 per cent of all claims

within 30 days, compared with 74.1 per cent in 1928. Within the 90 days they paid 91.3 per cent.

## Cleveland Chamber of Commerce Passes Rate Resolution

The board of directors of the Cleveland Chamber of Commerce passed a resolution on March 28 which advances certain principles for the establishment and maintenance of rates to be charged by railroads in the United States. The resolution states that the railroads should be entitled to charge and enjoy rates which will enable them, under honest, efficient and economical management, and under normal conditions to earn a fair return upon the value of the property owned by them and devoted to the public use; "that in determining such rates, due regard should be had for the fixed operating charges of the carriers including federal and state taxes, and interest upon bonded indebtedness as well as a fair return for the stockholders whose money is invested in railroad properties, thus furnishing a sound basis of railroad credit which is essential if the carriers, through proper extensions and improvements, are to provide a strong transportation system capable of furnishing that efficient and dependable service which is so essential a requisite to the economic and industrial prosperity of the country. Subject to the application of the foregoing principles, the determination of rates shall at all times be left to the sound judgment of the Interstate Commerce Commission, a body trained by experience and untrammeled by considerations of political and partisan expediency. And further, the Cleveland Chamber of Commerce deplores any movement intended to imperil or destroy rate structures built upon these principles, which, in its opinion, are both legally and morally sound. This expression is not, however, intended to either condemn, discourage or criticize any proper attempt upon the part of interested shippers or committees to secure readjustments of particular rates or schedules of rates which are found upon experience to be unduly or unjustly discriminatory and to thereby operate to the prejudice of the public or any part thereof."

## Transfer of New York Canals to U. S. Recommended

The chief of engineers of the Army, Maj. Gen. Lytle Brown, has transmitted to the House Committee on rivers and harbors a recommendation of the Board of Engineers for Rivers and Harbors, in which he concurs, that the Secretary of War be authorized and empowered to accept from the state of New York the state-owned Erie canal and the Oswego canal; and thereafter maintain and operate them as navigable waterways of the United States, at an estimated annual cost of $2,500,000. This recommendation is made on condition that the transfer shall be made without cost to the United States and shall include all lands, equipment, etc., and any rights to the collection of tolls or the development of water-power. This recommendation was submitted in connection with a report of the board and of a special board in review of previous reports on the deeper waterway from the Great Lakes to the Hudson river. The report of the special board was based on the cost of deepening these canals except locks, to 13 feet, which was estimated at $25,399,123, or $26,906,416 including interest during construction, but the chief of engineers recommended additional improvements for which he estimated the cost in the next 10 to 15 years at probably $50,000,000.

The special board said the existing Erie and Oswego canals have a practical capacity of about 6,800,000 tons and it estimates that by 1938 there will be about 7,500,000 tons seeking movement through the canal. While it is possible that the state of New York might carry out the program of enlargement, the report said, it has already expended about $146,000,000 on this waterway and there is reason for the claim that the United States should bear the cost of future improvements, since at least half the traffic consists of interstate and foreign commerce; but there is at present no legal authorization for a transfer to the United States and no indication that it would be approved by the people of New York. In the light of present information, the report adds, the progressive improvement of the canals appears desirable but since several years must elapse before the transfer can be effected the board is of the opinion that the adoption of a definite project for improvements should be deferred until the transfer is assured.

## B. & O. Proposes Coach Fare Reduction

The Baltimore & Ohio has filed with the Interstate Commerce Commission tariffs, to become effective on April 20, proposing special coach fares good on designated trains which would effect considerable reductions under the present rates between New York, Philadelphia, Baltimore, Washington and Pittsburgh, and the Pennsylvania has filed a protest, asking the commission to suspend the tariffs, stating that they are designed to meet motor-coach fares but would tend to pull down the railway passenger rate structure.

According to the tariffs the fare on trains named between New York and Washington would be reduced from $8.14 to $5.50; between New York and Baltimore from $6.70 to $4.50, between Philadelphia and Washington from $4.90 to $3.50; between Philadelphia and Baltimore from $3.46 to $2.50; between Philadelphia and Pittsburgh from $12.58 to $8.00 and between Baltimore-Washington and Pittsburgh from $10.90 to $7.00. The Pennsylvania in its protest asserts that every one of the reduced rates is the same as the motor-coach fares between the points named, and that, although the declared purpose is to compete with co-ordinated rail-coach service which has been established by the Pennsylvania in connection with several motor-coach lines, the action of the Baltimore & Ohio goes much farther than it has gone and represents an attempt to compete with straight motor-coach operations entirely apart from any co-ordination with rail service. It points out that the Baltimore & Ohio has reduced rates between points not reached by its co-ordinated service and expresses the fear that "if special coach fares equivalent to bus fares are established by one or more carriers, other carriers for competitive reasons will doubtless be compelled to take corresponding action which would necessarily extend the scope of the practice both territorially and as to the number of trains on which such fares would be honored;" also that the coaches will make further cuts. The B. & O. special fares are confined to two trains between New York and Washington and two between Philadelphia and Pittsburgh.

The Pennsylvania says it was influenced in establishing an arrangement with the Greyhound Lines by the opinion that a certain volume of long-distance bus travel would be encouraged to make part of the trip over its rail lines at night.

## Container Design Contest Announced

A committee of several international organizations interested in freight transportation recently announced a prize contest for the development of freight container designs with a monetary award for the best container of five tons capacity, less its own weight, for interchange among rail, highway and water carriers. The purpose of the competition, which is open to Americans, is to reduce costs of packing, storage and sorting and to promote rapid and economical transport.

The committee directing the contest was recruited from among the International Chamber of Commerce, League of Nations Advisory and Technical Committee on Communications and Transit, International Railway Union, Bureau Permanent International des Constructeurs d' Automobiles, International Association of Recognized Automobile Clubs, Conseil du Tourisme International, Federation Internationale des Transports Commerciaux Automobiles, Bureau International de Normalization de l'Automobile. Eligible entrants are: Firms manufacturing railway or motor equipment, transportation companies, organizations of the foregoing, schools and institutes and public institutions dealing with freight transportation. Subscriptions of $5,000 and $2,000 respectively toward the prize fund are reported from the Royal Automobile Club of Italy and the International Railway Union; other contributions are expected.

A recent circular of the Railway Business Association outlines the general plan of the contest and the conditions of competition. Containers entered are to be of two models, open and closed; for each model three different-sized containers must be submitted. Each container, however, must be so designed as to be able to carry five

tons, less its own weight; each must also be interchangeable among railway, highway and marine carriers.

The jury will take into account: The lightest weight; the lowest cost of manufacture taking into account royalties to be paid; the lowest maintenance charges and greatest length of life; the easiest, most rapid and cheapest handling features; the least trouble in fastening container to its carrier and the best method of closing.

The competition will be in two parts. Designs, specifications, etc., will be due September 10, 1930; they are to be submitted to the International Chamber of Commerce. The second part of the competition will require entrants to submit such models for test as the jury may require. Details of the competition may be obtained from the International Container Competition Committee, International Chamber of Commerce, 38 Cours Albert Ier, Paris, or from P. H. Middletown, Railway Business Association, Packard Building, Philadelphia, Pa.

### To Encourage Reforestation

The Pennsylvania will operate a "reforestation" special train over the Grand Rapids division from April 14 to 19, starting at Kalamazoo, Mich., and ending at Petoskey. This is to be done in co-operation with the Michigan State College forestry department, the United States forest service, the Michigan Tourist and Resort Association, and possibly the Izaak Walton League. Other co-operating agencies will be farm organizations and bureaus, granges, rotary clubs, boards of trade, high schools, Kiwanis clubs, Boy Scouts, Girl Scouts and Campfire Girls. There are many idle acres in Western and Northern Michigan, and the purpose of this enterprise is to encourage reforestation, to stress the need for protecting forests from fire, and to stimulate a greater appreciation of west Michigan natural resources.

The train will consist of six cars. There will be three baggage cars to carry the exhibits, and a coach which will serve as a lecture car. One express car will carry equipment for motion pictures and there will be a car for the sleeping and eating accommodations of the party.

Meetings will be held at 14 points, and some one from the federal forest service will be one of the speakers. Reforestation will be stressed from the standpoint of actual planting of trees as well as natural reseeding. More than 1,000,000 pine and spruce seedlings, enough to plant 1,000 acres, will be distributed from the train. County agents are now taking orders for these trees which will be supplied from the Michigan State College nursery.

Specialists aboard the train will advise farmers on the latest and best methods of planting. The train will also carry exhibits relative to the farm wood lot and its care. Other exhibits will emphasize the importance of windbreaks and shelter belts.

# *Equipment and Supplies*

## Locomotives

THE INDIANAPOLIS UNION is inquiring for four eight-wheel switching locomotives.

THE ERIE has ordered ten eight-wheel switching locomotives and five extra tenders, with a capacity of 20,000 gal., from the Baldwin Locomotive Works.

## Freight Cars

THE AMTORG TRADING CORPORATION is inquiring for 50 air dump cars.

WILSON & COMPANY, Chicago, is inquiring for 225 refrigerator cars.

THE NATIONAL TUBE COMPANY is inquiring for six ore cars of 50 tons' capacity.

THE TENNESSEE COPPER COMPANY is inquiring for from 10 to 30 tank cars of 7,000 gal. capacity.

THE CITIES SERVICE TANK LINE has ordered 100 tank cars of 8,000 gal. capacity from the General American Tank Car Corporation.

THE GREEN BAY & WESTERN has ordered 125 box cars from the Bettendorf Company. Inquiry for this equipment was reported in the *Railway Age* of February 1.

THE MINNEAPOLIS & ST. LOUIS is inquiring for 500 single sheathed box cars of 40 tons' capacity. In the *Railway Age* of April 5 this company was reported as having been authorized by the Federal Court to purchase this equipment.

THE INLAND LIME & STONE COMPANY, Chicago, has ordered 14 air dump cars of 30 yd. capacity from the Koppel Industrial Car & Equipment Company. Inquiry for this equipment was reported in the *Railway Age* of February 15.

THE MISSOURI-KANSAS-TEXAS has ordered 100 hopper ballast cars of 70 tons' capacity from the General American Car Corporation. Inquiry for this equipment was reported in the *Railway Age* of February 22.

## Passenger Cars

THE ERIE is inquiring for five 70-ft. express cars.

THE READING COMPANY is inquiring for 10 baggage cars 70 ft. long.

THE MINNEAPOLIS & ST. LOUIS is inquiring for four gas-electric rail motor cars 70 ft. long.

THE CENTRAL OF NEW JERSEY is inquiring for five combination passenger and baggage cars. This is in addition to 25 passenger coaches reported in the *Railway Age* of February 22.

## Iron and Steel

THE ATCHISON, TOPEKA & SANTA FE is inquiring for 7,500 tons of structural steel for a bridge over the Illinois river at Chillicothe, Ill.

THE TEXAS & PACIFIC is inquiring for 1,000 tons of structural steel for a passenger station and an inbound freight and warehouse building at Ft. Worth, Tex.

## Signaling

THE PEORIA & PEKIN Union plans the installation of a centralized dispatching system on its line between Peoria, Ill., and Pekin, eight miles, double track.

THE ALTON & SOUTHERN has ordered from the Union Switch & Signal Company material for automatic interlocking at the crossing, near Granite City, Ill., where the Alton & Southern crosses the St. Louis, Troy & Eastern. Semaphore signals will be used, style B; the distant signals will be fixed.

THE NEW YORK RAPID TRANSIT CORPORATION has ordered from the General Railway Signal Company material for signaling on the Broadway-Jamaica line (New York City). The order includes a Model 5E interlocking machine, ten working levers; 150 color-light signals, 644 relays, 169 transformers, 143 automatic stop layouts and other material.

### G R S Apparatus at Euston

The London, Midland & Scottish has contracted with Metropolitan Vickers G R S Limited, London, to install automatic block signals on its line from Euston station, London, to Watford, 17 miles, two tracks; and the order includes seven illuminated diagrams, and other equipment for 11 cabins. Color-light signals will be used, two-aspect and three-aspect, and there will be 128 automatic train stops. Other material included consists of 312 track circuits, 372 line relays, 86 time releases, circuit controllers, transformers, etc.

### Interlocking at St. Enoch's

The London, Midland & Scottish has ordered from the Westinghouse Brake & Saxby Signal Company, Ltd., an all-electric interlocking for Saint Enoch's station, Glasgow, Scotland. The machine will have 227 levers with no mechanical locking. The order includes 53 color-light signals, three-aspect, 99 shunt and calling-on signals, 26 route indicators, 106 switch movements, an illuminated diagram and other material.

## Miscellaneous

THE NEW YORK, NEW HAVEN & HARTFORD has ordered 50 industrial trucks for use at South station, Boston, Mass., from the Elwell-Parker Electric Company, Cleveland, Ohio.

# *Supply Trade*

The **Cut-Off & Speed Recorder Corporation,** 230 Park avenue, New York City, recently changed its name to the **Valve Pilot Corporation.**

**A. W. Daniels,** general sales manager of the **American Manganese Steel Company,** Chicago Heights, Ill., has been elected vice-president in charge of sales.

**L. C. Ritterbush** has been appointed resident engineer of the eastern district of the **Union Switch & Signal Company,** with headquarters at 150 Broadway, New York City.

**R. G. Elliott,** 631 Chapel street, New Haven, Conn., has been appointed representative in the state of Connecticut of the **Reading Chain & Block Corporation,** Reading, Pa.

**Samuel S. Demarest** has become associated with the **Detroit Graphite Company,** Detroit, Mich., as manager railway sales, in the East, with headquarters in the Chrysler building, New York City. Mr. Demarest was formerly eastern railway sales representative of Pratt & Lambert, Inc., Buffalo, N. Y., and later vice-president and general manager of the Charles R. Long, Jr. Company, Louisville, Ky.

**Wilfred Sykes,** assistant general superintendent of the Indiana Harbor works of the **Inland Steel Company,** has been appointed assistant to the president of the Inland Steel Company in charge of operations, with headquarters at Chicago, to succeed **David P. Thompson,** deceased. **James H. Walsh,** general superintendent of the Indiana Harbor works has been promoted to works manager of that plant. **Henry R. DeHoll** succeeds Mr. Walsh as general superintendent and **Frederick M. Gillies** succeeds Mr. Sykes as assistant general superintendent.

## Obituary

**George F. Davie,** vice-president and treasurer of the Interstate Iron & Steel Company, Chicago, died in that city on April 8 following an operation. He was born in Boston, Mass., on February 22, 1861, and entered business as a bookkeeper for an iron metal firm at the age of 18 years. From 1887 to 1905 he conducted a business of his own and in the latter year became one of the organizers of the Interstate Iron & Steel Company. During the 25 years that he was associated with this company, he held the position of vice-president and treasurer.

**Charles Jenkinson,** representative of the Rail Joint Company with headquarters at Washington, D. C. died on March 24 at Chicago, at the age of 67 following a brief illness. Mr. Jenkinson had a long and varied experience in track work in the South. He began his career in Chicago and afterwards went with the Mobile Street Railway. He later served as inspector in southern territory for the Weber Railway Joint Manufacturing Company. In 1905 when the Weber Company merged with the Rail Joint Company, Mr. Jenkinson remained with the latter company and represented it in the South until his death.

**Robert J. Davidson,** treasurer of the Ramapo Ajax Corporation, New York, died on April 3 at his winter home, Daytona Beach, Fla. Mr. Davidson was born on June 18, 1850, at Blooming Grove, Orange County, New York. He attended the public schools of Craigville until he was 14 when he took a position as clerk in the village store. Three years later he went to Ramapo and in 1872 was appointed shipping clerk of the Ramapo Wheel & Foundry Company and shortly afterwards he was promoted to bookkeeper and later became correspondence clerk. In 1881 he was elected secretary of the Ramapo Iron Works Company retaining also his position with the Ramapo Wheel & Foundry Company until 1883 when he resigned from the latter company and

Robert J. Davidson

then took an active part in the control and management of the Ramapo Iron Works as secretary. He assisted in organizing the Ramapo Foundry Company and when the latter was merged with the American Brake Shoe & Foundry Company he became a director, also a member of the executive committee and chairman of the finance committee which position he held until his death. His main activities were in connection with the Ramapo Iron Works which later became the Ramapo Ajax Corporation, of which he was treasurer at the time of his death. He also took an active part in civic affairs at Hillburn, N. Y.

**Augustus H. Bullard,** secretary and treasurer of the Bullard Company Bridgeport, Conn., died on April 5. He was born on March 9, 1867, at Hartford, Conn., and was graduated from the public schools of Hartford in 1885; he then became connected with the Hartford Equitable Indemnity Company. In July, 1886, he went to Bridgeport to assist E. P. Bullard, his uncle, proprietor of the Bridgeport Machine Tool Works which was later, in 1894, incorporated as the Bullard Machine Tool Company, (now the Bullard Company) at which time A. H. Bullard was elected a director, also secretary and treasurer, which offices he held until the time of his death. In 1901 he took an active part in the formation of the Bridgeport Manufacturers Association, of which he

Augustus H. Bullard

was elected corresponding secretary. He was also interested in the formation of the Connecticut Manufacturers Association and became its president in 1905, serving for two years in that office. He took an active interest in labor situations and served as a representative of industry in the work of the National Metal Trades Association, the National Manufacturers Association and the National Industrial Conference Board. He also held civic positions in Bridgeport, and served as fire commissioner of that city. Mr. Bullard was a director, also secretary and treasurer of the Bullard Engineering Works which was organized during the war to build and supply field artillery guns for the United States Government. He was a member of the board of directors of the Southern New England Telephone Company since October, 1919, and director of a number of financial organizations.

## William H. Miner Dies at Plattsburgh

William H. Miner, president of W. H. Miner, Inc., Chicago, died of heart failure on April 3 at Plattsburgh, N. Y., where he had undergone an operation for the removal of his tonsils. During his career, he not only occupied a prominent position in the railroad supply field, but was noted for his philanthropies, his generosity and his desire to give young people an opportunity to develop. Such characteristics as these and his ability to anaylze, concentrate

and invent can be traced through his life of 68 years which started as a farmer boy in Chazy, N. Y., and ended as the president of one of the largest railway supply companies.

Mr. Miner was born on October 22, 1862, at Juneau, Wis. Following the death of his father and mother when he was five years old, he lived with an aunt and uncle in Chazy. At the age of 16 years he entered the employ of the Wabash in the car shops at Lafayette, Ind. A short time later, he became a machinist apprentice in an industrial shop in Minneapolis, Minn., later returning to the Wabash at Lafayette. In 1888 and 1889 he was superintendent of the Lafayette Car Works at Lafayette and the Lima Car Works at Lima, Ohio. After a period of service with the Michigan Central, he became master car

William H. Miner

builder for the California Fruit Transportation Company in 1893. During the time that he was with the California Fruit Transportation Company he conceived his idea for a device that would eliminate the extensive damage that was done to cars during movement and in 1894 he received his first order for the Miner Tandem draft rigging. He then concentrated on the development of his draft gear and its sale through his Chicago office and in 1905 established the first physical laboratory to be devoted to draft gear research wherein he perfected his device as it is known today.

While engaged in this business he still remembered his boyhood environment and purchased an old home and ground on which he was raised in order to further farming in the community. On this land which gradually grew to embrace 13,000 acres, he specialized in the raising of pure bred stock and fowl and in scientific soil cultivation. In 1916 he built the Chazy Rural school, where 500 children are educated annually in the common grades, high school and special courses in industrial and household arts, library, drawing, music and physical training. Another of his enterprises was the Physicians hospital, which he established at Plattsburgh, N. Y., in 1910 and which he rebuilt in 1926 as one of the most modern institutions of its kind in the United States.

# *Construction*

ANN ARBOR.—The general contract for the construction of a one-story shop building at the car repair shops at Owosso, Mich., has been let to the Walsh Construction Company, Chicago, at a cost of about $50,000.

BALTIMORE & OHIO.—A contract for general track elevation work at Irvine street, Pittsburgh, Pa., has been awarded to the Vang Construction Company, Cumberland, Md., at a total cost of about $500,000. The general construction work involves the raising of the tracks by six or seven feet at Laughlin Junction and the construction of two four-track railroad bridges over a new street to be built by the city for the relocation of Greenfield avenue, connecting Second avenue and Irvine street, and also the rebuilding of existing railroad bridges over Swinburne street as clear span bridges.

BALTIMORE & OHIO—CHICAGO, BURLINGTON & QUINCY—CHICAGO & NORTH WESTERN—PENNSYLVANIA. — A contract for furnishing the steel for the two double-track viaducts which will carry the tracks of the Baltimore & Ohio Chicago Terminal and the Chicago & North Western over those of the Chicago, Burlington & Quincy and the Pennsylvania in connection with a grade separation project involving those four railroads at Fifteenth place and Stewart avenue, Chicago, has been let to the American Bridge Company, Chicago. The steel will be erected on a substructure for which a contract was awarded some time ago to W. J. Newman & Co., Chicago. This project also involves the rearrangement of the St. Charles Air Line and Baltimore & Ohio bridges over the Chicago river. A contract has been let to the Strobel Steel Construction Company, Chicago, for the moving of the Air Line bridge, occasioned by the straightening of the Chicago river, and the placing of it on a new site 11 ft. higher than the former elevation to meet the new viaduct grades. Upon the completion of that phase of the project, trains now using the Baltimore & Ohio bridge will be transferred to the Air Line bridge during the time necessary to raise the B. & O. bridge 11 ft. It is expected to raise the B. & O. bridge during the winter of 1930-1931, and it is also expected that the new viaducts together with necessary track changes will permit of operation over those structures about November 1. The cost of the entire grade separation project is estimated at $4,600,000.

BOSTON & MAINE.—A contract has been let to the New England Construction Company, Springfield, Mass., for the reconstruction of bridges at Thornton's Ferry, N. H.; over the Souhegan river at Merrimack, N. H.; over the Nashua river just north of the Union station at Nashua, N. H., and over the Merrimack river at Goffs Falls, N. H. The total cost of the work, which is part of the Boston & Maine's general program of improvements on its lines in northern New England, as reported in the *Railway Age* of November 16, 1929, is approximately $150,000.

BOSTON & MAINE.—The Public Service Commission of New York has approved a plan filed by this company covering the construction of abutments to support an additional track to be built in the future and improvements in track layout and signal system in connection with the elimination of the West street grade crossing, Johnsonville, N. Y. The cost of the additional improvements, estimated at $78,741 will be paid by the railroad. The commission has also approved an estimate of cost, amounting to $242,226, for the work required in connection with the elimination.

CANADIAN NATIONAL.—Bids will be received until April 17 for the clearing of the right of way, grading and installation of culverts for the construction of a connection between the existing main lines at Swift Creek, B. C., and Tete Jaune, 12 miles. Bids will be received at the same time for the replacement of 145 wooden box culverts on the lines in British Columbia with concrete pipe culverts and one concrete box culvert and the construction of eight concrete box culverts and six concrete pipe culverts through existing trestles.

CANADIAN PACIFIC.—Among the proposed branch lines recently approved by the Railways, Canals and Telephone committee of the Canadian House of Commons are the following: From a point near Tempest, Alta., southeast toward Skiff, about 10 miles; from Dunelm, Sask., southwest about 55 miles; from Duval, Sask., east about 25 miles; from a point in the vicinity of and northeast of Battleford, Sask., to Shellbrook, about 70 miles.

CANADIAN PACIFIC. — This company plans the construction of a branch line in the city of Quebec, Que., to connect its existing trackage with the new harbor facilities which it is building at Wolfe's Cove. The plan favored by the company involves a line starting near the St. Malo shops and running through a mile-long tunnel under the eastern part of the city to the waterfront, but an alternative route involving a longer surface line starting at Cap Rouge is also under consideration.

CANADIAN PACIFIC.—This company plans the expenditure of about $21,000,000 during 1930 for improvements to its Western lines, including the construction of branch lines. Of this amount, it is planned to expend about $10,000,000 for improvements to buildings, yards and roadway. New passenger stations will be constructed at St. Claude and Pilot Mound, Man., Shamrock and Bracken, Sask., Milk River, Alta., and Kimberley,

B. C. An addition will be constructed to the passenger station at Calgary, Alta., to provide for the installation of new telegraph equipment. A repair shop for handling steel ore cars will be constructed at Nelson, B. C., while a number of shop buildings will be constructed at Weston, Ont., and extensions to the engine houses will be constructed at Winnipeg, Man., and Fort William, Ont., to accommodate new passenger locomotives. Yard trackage will be extended and rearranged at Calgary, (Ogden), Alta., and Field, B. C., and new yard tracks and sidings will be constructed at 23 other points.

MISSOURI PACIFIC.—The War Department has approved the plans of this company for the reconstruction of a bridge over the Ouachita river at Arkadelphia, Ark.

MISSOURI PACIFIC.—A contract for the construction of one-story concrete and stone passenger stations at Grays Summit, Mo., LaBadie and Boes has been let to J. C. Duncan, St. Louis, Mo.

NEW YORK CENTRAL.—Contracts have been recently awarded to Miller-Blyth, Inc., New York City, for the construction of a pier shed at Pier No. 3, Wallabout Basin, Brooklyn, N. Y.; to Babor-Comeau & Co., Inc., New York, for the construction of a yardmaster's office and other buildings at Mott Haven, N. Y.; to Fischbach & Moore, Inc., New York, for the installation of electric light and power wiring for the locomotive shops at Harmon, N. Y.; to William Franklin, Buffalo, N. Y., for the reconstruction of bridge T-5, Depew, N. Y.; to James E. Lowe & Sons, Inc., Schenectady, N. Y., for the elimination of a grade crossing at Hardin's road, west of Schenectady; to the Walsh Construction Company, Syracuse, N. Y., for the elimination of a grade crossing at Relius, N. Y.; to H. R. Beebe, Inc., Utica, N. Y., for the elimination of the Salisbury road grade crossing at Poland, N. Y., and to I. M. Ludington's Sons, Inc., Rochester, N. Y., for the elimination of Cawles crossing at Hannibal, N. Y.

NEW YORK, NEW HAVEN & HARTFORD.—This company has authorized a number of projects along its lines, as follows: Construction of an additional main track for three-track operation between Kingston, R. I., and Davisville, 10.2 miles, at a cost of about $637,000; similar work between Westerly, R. I., and Bradford, 4.7 miles, at a cost of $230,000; the construction of additional tracks in the car storage yard at New Haven, Conn., at an estimated cost of $55,000; the provision of improved coaling facilities at Waterbury, Conn., at a probable cost of $55,000, and platform renewals at Boston, Mass., at a cost of about $25,600. Work on all of these projects is to be done by company forces. In addition to the contract for a new central heating plant at New Haven, reported in the *Railway Age* of April 5, the New Haven has awarded contracts to M. A. Gammino Construction Company, Providence, R. I., for the construction of a three-span steel overhead bridge to replace an existing bridge at Jewett City, Conn., at a cost of about $46,000, and to the G. W. Rogers Construction Company, New York City, for changes in dock facilities at Beacon, N. Y., at a probable cost of $34,000.

NORFOLK & WESTERN.—The contract for the construction of an extension of this company's Jacob's Fork branch easterly from Newhall, W. Va., to the mouth of Horsepen creek, a distance of eight miles, has been awarded to the Walton Sudduth Company, Bluefield, W. Va. The new line, which was authorized by the Interstate Commerce Commission late in January, as reported in the *Railway Age* of February 1, will serve a new coal field to be opened up at Crockett's Cove, W. Va. The total cost of the work will be about $1,250,000, while the building of the line involves the excavation of 225,000 cu. yd. of dirt, the construction of five reinforced box culverts, and one steel and concrete bridge and one steel viaduct over Jacob's Fork creek. About five miles of the extension will be completed by October 1 and the remaining three miles will be built later. The Norfolk & Western also contemplates the erection of a modern smith shop at its Roanoke, Va., shops. The new building will be of steel construction throughout, 637 ft. by 100 ft., with 64,000 sq. ft. of floor space. It is to be equipped with one 20-ton crane and two 10-ton cranes, each crane operating in one of the three spans into which the building is to be divided.

ST. LOUIS-SAN FRANCISCO.—This company has applied to the Interstate Commerce Commission for authority to build a line from Cameron, Okla., to the mine of the Tahona Smokeless Coal Company, 5.83 miles.

SOUTHERN PACIFIC.—The Interstate Commerce Commission has authorized the Inter-California Railway to construct an extension to its Sandia branch from Sandia, Cal., southward to a connection with the Holton Inter-Urban Railway at Holtsville, 5.8 miles—the Southern Pacific, lessee of the Inter-California, to operate the extension. The S. P. is also authorized to operate under trackage rights over the Holton Inter-Urban from El Centro to Holtsville, 9.85 miles. The estimated cost of the construction is $195,000.

TEXAS SHORT LINE.—The Interstate Commerce Commission has authorized this company to construct and operate a line of railroad from Grand Saline, Tex., southeasterly to Van, 11 miles; estimated cost $370,000.

UNION PACIFIC.—A contract has been let to the Omaha Steel Works, Omaha, Neb., for furnishing the steel for the reconstruction of the Seventh street grade separation structure at Omaha. Company forces will be employed in the reconstruction, which will involve a total expenditure of about $147,000.

WABASH.—This company plans the construction of a two-story freight house on Plymouth court, Chicago, at a cost of about $60,000. The structure will have outside dimensions of 95 ft. by 195 ft.

# *Financial*

BELT RAILWAY OF CHICAGO.—*Annual Report.*—The 1929 annual report of this road shows net income after interest and other charges of $187,200, the same as in 1928. Selected items from the income statement follow:

| | 1929 | 1928 | Increase or Decrease |
|---|---|---|---|
| RAILWAY OPERATING REVENUES | $8,299,173 | $8,152,395 | +$146,778 |
| Maintenance of way | 737,516 | 813,022 | —75,506 |
| Maintenance of Equipment | 906,506 | 845,920 | +60,586 |
| Transportation | 3,743,377 | 3,739,797 | +3,580 |
| TOTAL OPERATING EXPENSES | 5,608,791 | 5,601,187 | +7,604 |
| Operating ratio | 67.58 | 68.71 | —1.13 |
| NET REVENUE FROM OPERATIONS | 2,690,382 | 2,551,208 | +139,174 |
| Railway tax accruals | 683,787 | 643,079 | +40,707 |
| Railway operating income | 2,004,934 | 1,907,859 | +97,076 |
| Hire of freight cars—Cr. | 200,114 | 244,141 | —44,027 |
| Non-operating income | 129,313 | 140,363 | —11,050 |
| GROSS INCOME | 2,134,247 | 2,048,222 | +86,025 |
| Rent for leased roads | 1,762,782 | 1,696,850 | +65,932 |
| TOTAL DEDUCTIONS FROM GROSS INCOME | 1,947,047 | 1,861,022 | +86,025 |
| NET INCOME | 187,200 | 187,200 | ..... |

BUFFALO & SUSQUEHANNA.—*Annual Report.*—The annual report of this road for 1929 shows net income after interest and other charges of $286,837, as compared with net income in 1928 of $300,903. Selected items from the income statement follow:

| | 1929 | 1928 | Increase or Decrease |
|---|---|---|---|
| RAILWAY OPERATING REVENUES | $1,767,549 | $1,632,983 | +$134,565 |
| Maintenance of way | 352,320 | 327,238 | +25,081 |
| Maintenance of Equipment | 610,966 | 511,741 | +99,225 |
| Transportation | 537,218 | 513,453 | +23,764 |
| TOTAL OPERATING EXPENSES | 1,615,135 | 1,466,076 | +149,059 |
| NET REVENUE FROM OPERATIONS | 152,414 | 166,908 | —14,493 |
| Railway tax accruals | 6,113 | 24,573 | —18,460 |
| Railway operating income | 146,301 | 141,142 | +5,159 |
| Equipment rents — Net Cr. | 225,217 | 207,401 | +17,816 |
| Joint facility rents — Net Dr. | 27,189 | 27,096 | +93 |
| NET RAILWAY OPERATING INCOME | 344,329 | 321,448 | +22,881 |
| Non-operating income | 130,264 | 167,087 | —36,823 |
| GROSS INCOME | 474,593 | 488,533 | —13,942 |
| Interest on funded debt | 171,834 | 177,579 | —5,745 |
| TOTAL DEDUCTIONS FROM GROSS INCOME | 187,756 | 187,633 | +124 |
| NET INCOME | 286,837 | 300,903 | —14,066 |

CHESAPEAKE & OHIO.—*Annual Report.*—The annual report of this company for 1929 shows net income after interest and other charges of $32,192,416, as compared with net income in 1928 of $28,916,925. Selected items from the income statement follow:

| | 1929 | 1928 | Increase or Decrease |
|---|---|---|---|
| Average mileage operated | | | |
| RAILWAY OPERATING REVENUES | $129,779,115 | $124,825,172 | +$4,953,943 |
| Maintenance of way | 18,671,234 | 16,815,451 | + 1,855,782 |
| Maintenance of equipment | 29,016,913 | 27,821,775 | + 1,195,138 |
| Transportation | 32,409,582 | 32,663,442 | — 253,860 |
| TOTAL OPERATING EXPENSES | 85,514,858 | 82,543,249 | + 2,971,609 |
| Operating ratio | 65.9 | 66.1 | — 0.2 |
| NET REVENUE FROM OPERATIONS | 44,264,257 | 42,281,923 | + 1,982,334 |
| Railway tax accruals | 8,645,354 | 8,490,514 | + 154,840 |
| Railway operating income | 35,609,546 | 33,774,429 | + 1,835,117 |
| Equipment rents (net) | 3,441,391 | 3,576,370 | — 134,980 |
| Joint facility rents (net) | 1,169,303 | 1,027,206 | + 142,098 |
| NET RAILWAY OPERATING INCOME | 37,881,633 | 36,323,594 | + 1,558,040 |
| GROSS INCOME | 41,370,150 | 38,956,806 | + 2,413,344 |
| Rent for leased roads | 131,987 | 802,715 | — 670,729 |
| TOTAL DEDUCTIONS FROM GROSS INCOME | 9,177,734 | 10,039,881 | — 862,147 |
| NET INCOME | 32,192,416 | 28,916,925 | + 3,275,491 |

CHESAPEAKE & OHIO.—*Acquisition of Hocking Valley Authorized.*—The Interstate Commerce Commission has authorized the C. & O. to acquire and operate the lines and other properties of the Hocking Valley, which it has long controlled through ownership of 80.967 per cent of its capital stock, and to issue for that purpose $24,748,875 of its own common stock which is to be distributed to holders of the Hocking Valley stock at the rate of 2¼ shares for each share of Hocking Valley. The C. & O. was also authorized to assume obligation and liability in respect of bonds, notes and other evidences of indebtedness of the Hocking Valley. The lines of the latter company extend from Pomeroy to Rockwell, Ohio, 320 miles, and the plan contemplates a continuous double-track line, under single-system control and operation, between the coal fields of Kentucky and West Virginia and connections at Toledo. The acquisition conforms to the commission's consolidation plan. The authorization is on condition that the applicant shall be governed by certain findings expressed in the report as to the amount of the entry on its books for the cost of the acquisition of the Hocking Valley, as it is stated that clearly the current cash value of the stock does not represent the real consideration. Commissioner Eastman dissented, on the ground that what is proposed is the consolidation of the properties "into one corporation for the ownership, management and operation of the properties theretofore in separate ownership, management and operation," and that the application should have been brought under section 5 (6) rather than under section 1 (18).

*Unification Plan Withdrawn.*—Herbert Fitzpatrick, vice-president and general counsel of the Chesapeake & Ohio, has written a letter to Director Mahaffie of the commission's Bureau of Finance withdrawing the application filed by the company in February last year for general approval of a plan for the acquisition of a system of roads in eastern territory. This is in accordance with the suggestion made by Director Mahaffie after the consolidation plan was issued, that this and other applications be withdrawn because they did not state terms and conditions on which the commission could issue an order. The withdrawal is for the purpose of making way for a substitute application under which it is expected the C. & O. will ask specific authority to acquire control by exchange of stock of the various roads allocated to its system in the plan and also of the Wheeling & Lake Erie and Chicago & Eastern Illinois, but it is understood it will first file an application for authority to split its common stock capitalization into four times the present number of shares.

CHICAGO & WESTERN INDIANA.—*Annual Report.*—The annual report of this company for 1929 shows net income after interest and other charges of $464,805, as compared with net income in 1928 of $461,886. Selected items from the income statement follow:

| | 1929 | 1928 | Increase or Decrease |
|---|---|---|---|
| RAILWAY OPERATING REVENUES | $216,037 | $258,435 | —$42,397 |
| Maintenance of way | 20,565 | 21,501 | —936 |
| Maintenance of Equipment | 127,225 | 187,695 | —60,470 |
| Transportation | 172,743 | 185,508 | —12,765 |
| TOTAL OPERATING EXPENSES | 330,484 | 404,399 | —73,915 |
| Operating ratio | 152.98 | 156.48 | —3.50 |
| NET LOSS FROM OPERATIONS | 114,447 | 145,965 | —31.518 |
| Hire of freight cars—Dr. | 4,526 | 8,595 | —4,069 |
| Joint facility rents | 2,537,882 | 2,421,170 | +116,712 |
| Non-operating income | 4,821,677 | 4,677,417 | +144,260 |
| GROSS INCOME | 4,707,230 | 4,531,452 | +175,777 |
| Rent for leased roads | 116,932 | 48,675 | +68,257 |
| Interest on funded debt | 3,308,869 | 3,231,012 | +77,857 |
| TOTAL DEDUCTIONS FROM GROSS INCOME | 4,242,425 | 4,069,566 | +172,859 |
| NET INCOME | 464,805 | 461,886 | +2,918 |

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC. — *Abandonment.* — The Interstate Commerce Commission has authorized this company to abandon certain portions of its line in Missouri in connection with an agreement between it and the Chicago, Rock Island & Pacific (St. Paul & Kansas City Short Line), under which the latter company will construct a new line into Birmingham from the northeast and the Milwaukee will revise its line and grade, the two companies thereafter pairing their tracks to permit double track operation over a line of low gradient and curvature. The proposed abandonment, construction and operation is described as follows:

1. From Polo to a point 2.7 miles southwesterly thereof, in Caldwell County. The Milwaukee will revise its line to reduce the grades, at a cost of $47,120, and the Short Line will construct a parallel main track at a cost of $234,832. The station facilities at Polo will be taken over by the Short Line.
2. From a point 2.7 miles southwesterly of Polo to a point 1.1 miles east of Lawson, in Caldwell and Ray Counties. The existing line of the Milwaukee, approximately 9 miles in length, will be abandoned. The Short Line will construct a double track main line 8.75 miles in length, at a cost of $1,950,150. Half this cost will be borne by the Milwaukee, and the property will be owned in equal parts by the two carriers. The location of the proposed line has been changed from the location indicated on the maps filed with the application and the return to I. C. C. questionnaire.
3. From a point 1.1 miles east of Lawson to a point 0.5 mile west of Moseby, in Ray and Clay Counties. The Milwaukee will revise 1 mile of its existing line near Lawson at a cost of $49,904 and will construct 1.36 miles of new line near Moseby, to connect with the proposed location of the Short Line, at a cost of $170,080. Otherwise the existing line of the Milwaukee will remain unchanged. The Short Line will construct 11.85 miles of new single track line at a cost of $1,553,000. In the central part of this section the lines of the two carriers will be about 3 miles apart.
4. From a point 0.5 mile west of Moseby to Birmingham, in Clay County. The Milwaukee will abandon its present main line, about 15 miles in length, substantially all within this section. It will construct a new double track main line 13.32 miles in length, on a new location, at a cost of $2,211,808. This line will be paid for and owned in equal parts by the two carriers.

At the consummation of these changes, each railroad will own the land, track and appurtenances of one of the two main tracks between Polo and Birmingham. The estimated outlay of the Milwaukee is $2,318,780, including salvage, and that of the Rock Island $4,120,077.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Equipment Trust.*—The Interstate Commerce Commission has authorized this company to assume obligation and liability in respect of $4,260,000 of its 4½ per cent equipment trust certificates, series L, maturing from 1931-45. The issue is offered for sale at the highest bid, 97.32, to the International Manhattan Company, Inc., and Salomon Bros. & Hutzler, which will make the annual cost to the railroad 4.9295 per cent.

CHICAGO, ROCK ISLAND & PACIFIC.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue $32,228,000 of 30-year 4½ per cent convertible gold bonds and also $25,782,400 of common stock in conversion thereof. The bonds are convertible into common stock at $125 per share after May 1, 1931, and before May 1, 1940, and are to be offered for subscription by May 9 to stockholders of record March 7 at 95 and interest, to the extent of 25 per cent of their holdings. The proceeds are to reimburse the treasury for expenditures made and to be made in connection with construction work now under way. The issue has been underwritten by Speyer & Co., the National City Company, and J. & W. Seligman & Co.

CHICAGO, ROCK ISLAND & PACIFIC.—

*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to guarantee an issue of $14,040,000 of 4½ per cent equipment trust certificates.

DENVER & RIO GRANDE WESTERN.—*Annual Report.*—The annual report of this company shows net surplus for 1929, after interest and other charges, of $2,499,845, as compared with $2,485,592 in 1928. Selected items from the income statement follow:

| | 1929 | 1928 | Increase or Decrease |
|---|---|---|---|
| Average mileage operated | 2,558.34 | 2,557.75 | + .59 |
| RAILWAY OPERATING REVENUES | $34,828,669 | $33,200,656 | +$1,628,013 |
| Maintenance of way | 5,441,659 | 6,178,430 | — 736,771 |
| Maintenance of equipment | 6,592,014 | 6,164,141 | + 427,873 |
| Transportation | 10,236,514 | 10,003,469 | + 233,045 |
| TOTAL OPERATING EXPENSES | 24,535,166 | 24,442,415 | + 92,751 |
| Operating ratio | 70.45 | 73.62 | — 3.17 |
| NET REVENUE FROM OPERATIONS | 10,293,503 | 8,758,241 | + 1,535,262 |
| Railway tax accruals | 2,395,000 | 2,300,000 | + 95,000 |
| Hire of equipment—Net | 321,341 | 320,269 | + 1,072 |
| Joint facility rents—Net | 313,866 | 318,630 | — 4,764 |
| NET RAILWAY OPERATING INCOME | 8,528,676 | 7,094,772 | + 1,433,905 |
| Non-operating income | 282,857 | 220,128 | + 62,729 |
| GROSS INCOME | 8,959,911 | 7,440,737 | + 1,519,174 |
| Rent for leased roads | 102,194 | 102,194 | ..... |
| Available for interest | 8,811,533 | 7,314,899 | + 1,496,634 |
| Surplus | 2,499,845 | 2,485,592 | + 14,252 |

ERIE.—*Bonds.*—J. P. Morgan & Co., the First National Bank and the National City Company are offering $50,000,000 of refunding and improvement mortgage 5 per cent bonds of this company at 95½ to yield 5.25 per cent. The issue will mature in 1975 and is redeemable at premiums ranging down from 5 per cent.

GREAT NORTHERN PACIFIC.—*Congressmen Oppose Unification.*—The Minnesota delegation in the House of Representatives has sent a telegram to Governor Christianson, of Minnesota, suggesting that he immediately set in motion the legal machinery of the state to secure a temporary restraining order to prevent the proposed unification of the Great Northern and Northern Pacific until Congress shall have had an opportunity to pass upon measures now pending to investigate the situation. Representative Knutson has introduced in the House a resolution to suspend the authority of the commission to approve unifications, which is similar to one introduced earlier in the Senate by Senator Couzens, except that the latter contained a preamble stating among other things that the commission had already authorized the consolidation of the Great Northern and Northern Pacific. The commission had issued a finding that acquisition of control of the two companies by the Great Northern Pacific would be in the public interest subject to certain conditions, including one that the two lines give up their control of the Burlington. Governor Christianson replied to the telegram stating that representatives of Minnesota and other interested states would meet in Washington next week to consider their future action and that meanwhile the attorney general of Minnesota would study the possibility of injunction proceedings.

ILLINOIS TERMINAL COMPANY.—*Lease.*—This company has applied to the Interstate Commerce Commission for authority to acquire control by lease of the Alton & Eastern, St. Louis & Alton, and the O'Fallon freight line of the East St. Louis & Suburban.

KANSAS CITY SOUTHERN.—*Annual Report.*—The annual report of this company for 1929 shows net income after interest and other charges of $3,365,219, as compared with net income in 1928 of $2,941,288. Selected items from the income statement follow:

| | 1929 | 1928 | Increase or Decrease |
|---|---|---|---|
| Average mileage operated | 883.23 | 865.10 | + 18.13 |
| RAILWAY OPERATING REVENUES | $21,978,222 | $21,423,897 | +$554,325 |
| Maintenance of way | 2,595,480 | 2,485,055 | + 110,425 |
| Maintenance of equipt. | 3,433,248 | 3,321,178 | + 112,070 |
| Transportation | 6,179,335 | 6,369,109 | — 189,774 |
| TOTAL OPERATING EXPENSES | 14,275,415 | 14,089,021 | + 186,394 |
| Operating ratio | 71.53 | 71.64 | — .11 |
| NET REVENUE FROM OPERATIONS | 7,702,807 | 7,334,875 | + 367,932 |
| Railway tax accruals | 1,446,458 | 1,259,496 | + 7,397 |
| Railway operating income | 6,244,544 | 6,070,971 | + 173,573 |
| Equipment rents—Net Dr. | 996,508 | 1,007,215 | — 10,707 |
| Joint facility rents—Net Dr. | 99,114 | 90,188 | + 8,926 |
| NET RAILWAY OPERATING INCOME | 5,148,922 | 4,973,567 | + 175,355 |
| Non-operating income | 1,305,902 | 1,898,702 | — 592,800 |
| GROSS INCOME | 7,550,445 | 7,969,673 | — 419,228 |
| Rent for leased roads | 171,880 | 171,759 | + 121 |
| Interest on funded debt | 2,585,320 | 2,590,231 | — 4,911 |
| TOTAL DEDUCTIONS FROM GROSS INCOME | 4,185,227 | 5,028,386 | — 843,159 |
| NET INCOME | 3,365,219 | 2,941,288 | + 423,931 |

MISSOURI PACIFIC.—*Seeks Entrance to New Orleans.*—This company and the New Orleans, Texas & Mexico have applied to the Interstate Commerce Commission for authority to operate under trackage rights over a line of the Louisiana Railway & Navigation Company from East Baton Rouge Parish to New Orleans, La., and to acquire an undivided half interest in the line.

MISSOURI PACIFIC.—*Bonds.*—The Interstate Commerce Commission has authorized an issue of $25,000,000 of first and refunding mortgage 5 per cent bonds, to be sold at not less than 97¼ and interest, the proceeds to be used to reimburse the treasury for expenditures heretofore made and to acquire equipment.

MOBILE & OHIO.—*Annual Report.*—The annual report of this company for 1929 shows net income after interest and other charges of $903,131, as compared with net income in 1928 of $1,082,426. Selected items from the income statement follow:

| | 1929 | 1928 | Increase or Decrease |
|---|---|---|---|
| Average Mileage operated | 1,159.14 | 1,160.15 | —0.09 |
| RAILWAY OPERATING REVENUES | $17,315,532 | $17,369,129 | —$53,597 |
| Maintenance of way | 2,590,439 | 2,525,930 | +64,509 |
| Maintenance of Equipment | 3,260,903 | 3,056,391 | +204,512 |
| Transportation | 6,158,894 | 6,382,763 | —223,869 |
| TOTAL OPERATING EXPENSES | 13,269,311 | 13,199,308 | +70,003 |
| Operating ratio | 76.63 | 75.99 | +0.64 |
| NET REVENUE FROM OPERATIONS | 4,046,220 | 4,169,821 | —123,601 |
| Hire of equipment | 260,535 | 224,005 | +36,530 |
| Joint facility rents | 299,773 | 279,842 | +19,931 |
| NET RAILWAY OPERATING INCOME | 2,460,151 | 2,647,695 | —187,544 |
| Non-operating income | 159,237 | 162,334 | —3,097 |
| GROSS INCOME | 2,619,388 | 2,810,029 | —190,641 |
| Interest on funded debt | 1,358,175 | 1,358,175 | ..... |
| NET INCOME | 903,131 | 1,082,426 | —179,295 |

MURFREESBORO-NASHVILLE SOUTHWESTERN.—*Securities.*—The Interstate Commerce Commission has authorized this company to issue $16,000 of common stock and $30,000 of first mortgage bonds, the stock to be disposed of at not less than par and the bonds at not less than 90. The stock is to be delivered to subscribers and the bonds, or their proceeds, to certain creditors.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon that portion of its Swan Creek branch between Rochelle, Tenn., and Bond, 1.9 miles.

NATIONAL OF MEXICO.—*New Director Elected.*—Juan Andrean Almazan, who was recently appointed minister of communications of the Republic of Mexico, has been elected a member of the board of directors of this company for Mexico.

NEW YORK CENTRAL.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon a branch line from San Toy to Sayre, Ohio, 4.26 miles.

NEW YORK, ONTARIO & WESTERN.—*Annual Report.*—The 1929 annual report of this company shows net deficit after interest and other charges of $250,045, as compared with net deficit in 1928 of

(*Continued on page 898*)

# Annual Report

## Central of Georgia Railway Company

### Report of the Board of Directors

To the Stockholders of Central of Georgia Railway Company:

The Board of Directors submits the following report of the operations and affairs of Central of Georgia Railway Company for the year ended December 31, 1929:

#### Income

A summary of the income for the year ended December 31, 1929, as compared with the previous year is shown in Table 2.

#### Railway Operating Revenues

"Railway Operating Revenues" amounted to $25,033,991.69 this year, as compared with $25,132,966.38 last year, a decrease of $98,974.69, or 0.39 per cent. For details of "Railway Operating Revenues" see Table 2.

"Freight Revenue" increased $40,817.66, or 0.21 per cent. Tons of revenue freight carried one mile were 1,592,342,920, an increase of 38,268,449, or 2.46 per cent, compared with last year. The average rate per ton mile was 1.20 cents, a decrease of 0.02 cents, or 1.64 per cent, compared with the previous year.

"Passenger Revenue" decreased $297,470.46, or 7.98 per cent. The number of passengers carried one mile was 110,921,933 a decrease of 10,835,972, or 8.90 per cent, compared with last year. The average revenue per passenger per mile increased 0.03 cents, or 0.98 per cent. The decrease in passenger revenue was due largely to increased motor competition.

"Mail Revenue" increased $57,041.03, or 10.55 per cent, due to increase in rates granted under order of Interstate Commerce Commission, effective August 1, 1928.

"Express Revenue" increased $31,074.22, or 3.58 per cent, due to an increase in the volume of express transported.

There was an increase of $9,966.96, or 16.96 per cent in other passenger train revenue, consisting of "Excess Baggage," "Milk" and "Other Passenger Train Revenue."

"Switching" and "Special Service Train Revenue" increased $3,839.77 or 1.10 per cent "Incidental" and "Joint Facility Revenues" increased $55,756.13, or 9.83 per cent.

#### Railway Operating Expenses

"Railway Operating Expenses" amounted to $19,134,801.93 this year, as compared with $19,208,786.48 last year, a decrease of $73,984.55, or 0.39 per cent.

The increase of $220,803.55, or 6.99 per cent, in "Maintenance of Way and Structures Expenses" was due to increase in extraordinary expenditures incurred on account of excessive rains and high water during the months of February, March, September, and October.

The decrease of $51,413.72, or 1.16 per cent, in "Maintenance of Equipment Expenses" was due to increased efficiency of shop forces. Charges to "Maintenance of Equipment" for depreciation were $900,715.41 a decrease of $69.71. The average miles per serviceable locomotive were 32,494, an increase of 1,211 miles, or 3.87 per cent. The average age of locomotives was 20.2 years as compared with 19.6 years for previous year.

"Traffic Expenses" decreased $15,678.70, or 1.82 per cent.

The decrease of $190,472.10, or 2.00 per cent in "Transportation Expenses" was due to a decrease in local passenger train service and increased operating efficiency.

"Miscellaneous Operations" increased $6,259.44 or 4.17 per cent, due mainly to increase in loss from dining car service in through trains.

"General Expenses" decreased $58,101.22, or 5.29 per cent.

#### Railway Tax Accruals

"Railway Tax Accruals" amounted to $1,530,394.31 this year, as compared with $1,512,756.54 last year, an increase of $17,637.77, or 1.17 per cent. There was an increase of $28,617.30 in Federal income tax, and an increase of $513.47 in State, County and Municipal taxes. These increases were offset in part by a decrease of $11,493.00 in Federal capital stock tax due to additional assessments for years 1925 and 1926 included in 1928. The taxes for the year were equal to 25.94 per cent of the "Net Revenue from Railway Operations" and exceeded the total dividends paid to stockholders by $130,394.31.

#### Uncollectible Railway Revenues

"Uncollectible Railway Revenues" were $9,067.78 this year, compared with $5,903.76 last year, an increase of $3,164.02.

#### Equipment Rents—Net Credit

"Equipment Rents—Net Credit" amounted to $275,236.64 this year, as compared with $164,427.16 last year, a saving in net rental paid for the use of equipment of $110,809.48.

#### Joint Facility Rents—Net Debit

"Joint Facility Rents—Net Debit" was $126,507.72 this year, as compared with $120,123.24 last year, an increase of $6,384.48.

#### Non-Operating Income

"Non-Operating Income" amounted to $909,285.02 this year, as compared with $926,476.17 last year, a decrease of $17,191.15. There was an increase of $7,143.92 in "Income from Lease of Road." "Miscellaneous Rent Income" decreased $6,285.55. There was a decrease of $12,611.63 in "Miscellaneous Non-Operating Physical Property." "Dividend Income" decreased $40,089.75. Dividends from Fruit Growers Express Company decreased $23,370.00 and from Wrightsville and Tennille Railroad Company $16,714.50. "Income from Funded Securities" increased $3,018.59. Interest received from Bowdon Railway increased $5,000.00, while interest received on "Advances to Affiliated Companies" and "Miscellaneous Income" decreased $1,981.41. "Income from Unfunded Securities and Accounts" increased $32,241.23. Interest received on bank balances and demand deposits increased $37,096.53, while interest on special deposits, interest during construction, and miscellaneous decreased $4,855.30.

#### Deductions from Gross Income

"Deductions from Gross Income" amounted to $3,659,697.60 this year, as compared with $3,664,107.95 last year, a decrease of $4,410.35. There was an increase of $782.21 in "Rent for Leased Roads." "Miscellaneous Rents" increased $13,107.15 chiefly in rental of "Vale Royal Terminals." "Miscellaneous Tax Accruals" increased $1,058.50. "Interest on Non-negotiable Debt to Affiliated Companies" increased $18,995.95 and "Miscellaneous Income Charges" increased $1,209.73. "Interest on Funded Debt" decreased $22,022.06. There was a decrease of $36,416.50 in charges for interest on equipment trusts, which was offset in part by increase in interest on mortgage bonds of $14,394.44. Other items of decrease were "Amortization of Discount on Funded Debt," $12,189.70 and "Interest on Unfunded Debt," $5,352.13.

#### Additions and Betterments

There were expended during the year for "Additions and Betterments" (including improvements on lessor properties) $253,172.50. The following is a classified statement of these expenditures:

| | | |
|---|---|---|
| **Road:** | | |
| Engineering | $ | 11,392.41 |
| Land for transportation purposes | Cr. | *45,735.31* |
| Grading | | 34,121.46 |
| Bridges, trestles, and culverts | | 101,796.91 |
| Ties | | 47,049.18 |
| Rails | | 35,839.79 |
| Other track material | | 169,116.14 |
| Ballast | Cr. | *864.79* |
| Track laying and surfacing | | 25,992.43 |
| Right-of-way fences | | 595.26 |
| Crossings and signs | | 33,978.11 |
| Station and office buildings | Cr. | *4,899.49* |
| Roadway buildings | Cr. | *3,998.56* |
| Water stations | | 6,850.21 |
| Fuel stations | Cr. | *1,691.43* |
| Shops and enginehouses | | 13,622.35 |
| Storage warehouses | | 1,585.71 |
| Telegraph and telephone lines | | 826.03 |
| Signals and interlockers | | 33,129.41 |
| Power plant buildings | | 1,711.24 |
| Power substation buildings | | 297.57 |
| Power distribution systems | | 1,682.77 |
| Power line poles and fixtures | | 521.49 |
| Miscellaneous structures | | 1,658.18 |
| Paving | Cr. | *1,506.18* |
| Roadway machines | | 287.15 |

[Advertisement]

| | | |
|---|---|---|
| Assessments for public improvements | | 1,749.13 |
| Shop machinery | | 11,088.80 |
| Power plant machinery | Cr. | *14,818.10* |
| Power substation apparatus | | 1,633.45 |
| Total | | $ 463,011.32 |
| **Equipment:** | | |
| Steam locomotives | | $ 20,499.89 |
| Freight-train cars | | 3,707.78 |
| Passenger-train cars | Cr. | *7,184.44* |
| Motor equipment of cars | | 7,807.38 |
| Work equipment | | 6,881.66 |
| Miscellaneous equipment | | 5,850.32 |
| Total | | $ 37,562.59 |
| Less equipment retired | Cr. | *247,401.41* |
| Net | | $ Cr. *209,838.82* |
| Grand Total | | $ 253,172.50 |

## General Remarks

During the year your company received $243,683.68 from the United States Government to cover back mail pay for the period May 9, 1925 to July 31, 1928. This amount was credited to profit and loss.

The Board of Directors takes pleasure in expressing its appreciation to officers and employes for their loyal and efficient service.

By order of the Board of Directors.

LAWRENCE A. DOWNS,
Chairman of the Board.

## Table 2—Income Statement for the Years Ended December 31, 1929 and 1928

| | 1929 | Per Cent. of Total Operating Revenues | 1928 | Per Cent. of Total Operating Revenues | + Increase or —Decrease |
|---|---|---|---|---|---|
| Average miles operated | 1,944.57 | .... | 1,917.28 | .... | + 27.29 |
| **Railway Operating Revenues:** | | | | | |
| **Rail-Line Transportation:** | | | | | |
| Freight | $19,060,874.21 | 76.14 | $19,020,056.55 | 75.68 | +$ 40,817.66 |
| Passenger | 3,431,606.12 | 13.71 | 3,729,076.58 | 14.84 | — 297,470.46 |
| Excess baggage | 22,210.81 | .09 | 24,895.59 | .09 | — 2,684.78 |
| Mail | 597,512.04 | 2.38 | 540,471.01 | 2.15 | + 57,041.03 |
| Express | 898,194.28 | 3.59 | 867,120.06 | 3.45 | + 31,074.22 |
| Milk | 6,859.87 | .03 | 7,740.66 | .03 | — 880.79 |
| Other passenger-train | 39,657.05 | .16 | 26,124.52 | .10 | + 13,532.53 |
| Switching | 336,802.60 | 1.34 | 336,242.58 | 1.34 | + 560.02 |
| Special service train | 17,499.75 | .07 | 14,220.00 | .06 | + 3,279.75 |
| Total rail-line transportation revenue | $24,411,216.73 | 97.51 | $24,565,947.55 | 97.74 | —$154,730.82 |
| **Incidental Operating Revenue:** | | | | | |
| Dining and buffet | $ 127,051.42 | .51 | $ 114,499.10 | .46 | +$ 12,552.32 |
| Hotel and restaurant | 4,240.38 | .02 | 4,014.01 | .02 | + 226.37 |
| Station, train and boat privileges | 11,502.26 | .05 | 13,718.58 | .05 | — 2,216.32 |
| Parcel room | 78.40 | .... | 74.00 | .... | + 4.40 |
| Storage—freight | 87,415.26 | .35 | 77,991.82 | .31 | + 9,423.44 |
| Storage—baggage | 549.44 | .... | 663.88 | .... | — 114.44 |
| Demurrage | 65,859.30 | .26 | 56,763.32 | .23 | + 9,095.98 |
| Power | 5,233.21 | .02 | 5,870.84 | .02 | — 637.63 |
| Rents of buildings and other property | 3,644.59 | .01 | 4,810.42 | .02 | — 1,165.83 |
| Miscellaneous | 267,678.05 | 1.07 | 239,181.10 | .95 | + 28,496.95 |
| Total incidental operating revenue | $ 573,252.31 | 2.29 | $ 517,587.07 | 2.06 | +$ 55,665.24 |
| **Joint Facility Operating Revenue:** | | | | | |
| Joint facility—Cr. | $ 50,796.73 | .20 | $ 51,168.79 | .20 | —$ 372.06 |
| Joint facility—Dr. | *1,274.08* | .... | *1,737.03* | .... | — *462.95* |
| Total joint facility operating revenue | $ 49,522.65 | .20 | $ 49,431.76 | .20 | +$ 90.89 |
| Total railway operating revenues | $25,033,991.69 | 100.00 | $25,132,966.38 | 100.00 | —$ 98,974.69 |
| **Railway Operating Expenses:** | | | | | |
| Maintenance of way and structures | $ 3,381,879.12 | 13.51 | $ 3,161,075.57 | 12.58 | +$220,803.55 |
| Maintenance of equipment | 4,397,930.98 | 17.57 | 4,449,344.70 | 17.70 | — 51,413.72 |
| Traffic | 844,781.27 | 3.37 | 860,459.97 | 3.42 | — 15,678.70 |
| Transportation—rail line | 9,333,787.37 | 37.28 | 9,524,259.47 | 37.90 | — 190,472.10 |
| Miscellaneous operations | 156,498.26 | .63 | 150,238.82 | .60 | + 6,259.44 |
| General | 1,040,443.09 | 4.16 | 1,098,544.31 | 4.37 | — 58,101.22 |
| Transportation for investment—Cr. | *20,518.16* | *.08* | *35,136.36* | *.14* | — *14,618.20* |
| Total railway operating expenses | $19,134,801.93 | 76.44 | $19,208,786.48 | 76.43 | —$ 73,984.55 |
| Net revenue from railway operations | $ 5,899,189.76 | 23.56 | $ 5,924,179.90 | 23.57 | —$ 24,990.14 |
| **Railway tax accruals** | $ 1,530,394.31 | 6.11 | $ 1,512,756.54 | 6.02 | +$ 17,637.77 |
| **Uncollectible railway revenues** | 9,067.78 | .04 | 5,903.76 | .02 | + 3,164.02 |
| Railway operating income | $ 4,359,727.67 | 17.41 | $ 4,405,519.60 | 17.53 | —$ 45,791.93 |
| **Additions to Railway Operating Income:** | | | | | |
| Hire of freight cars—credit balance | $ 341,830.40 | .... | $ 161,260.21 | .... | +$180,570.19 |
| Rent from locomotives | 21,631.52 | .... | 23,733.09 | .... | — 2,101.57 |
| Rent from passenger-train cars | 138,524.87 | .... | 160,757.87 | .... | — 22,233.00 |
| Rent from work equipment | 9,451.58 | .... | 10,738.60 | .... | — 1,287.02 |
| Joint facility rent income | 149,170.22 | .... | 222,050.57 | .... | — 72,880.35 |
| Total additions to railway operating income | $ 660,608.59 | .... | $ 578,540.34 | .... | +$ 82,068.25 |
| **Deductions from Railway Operating Income:** | | | | | |
| Rent for locomotives | $ 12,924.21 | .... | $ 8,131.30 | .... | +$ 4,792.91 |
| Rent for passenger-train cars | 218,822.55 | .... | 181,656.42 | .... | + 37,166.13 |
| Rent for work equipment | 4,454.97 | .... | 2,274.89 | .... | + 2,180.08 |
| Joint facility rent — Deductions | 275,677.94 | .... | 342,173.81 | .... | — 66,495.87 |
| Total deductions from railway operating income | $ 511,879.67 | .... | $ 534,236.42 | .... | —$ 22,356.75 |
| Net railway operating income | $ 4,508,456.59 | .... | $ 4,449,823.52 | .... | +$ 58,633.07 |
| **Non-Operating Income:** | | | | | |
| Income from lease of road | $ 53,327.67 | | $ 46,183.75 | | +$ 7,143.92 |
| Miscellaneous rent income | 118,485.54 | | 124,771.09 | | — 6,285.55 |
| Miscellaneous non-operating physical property | 29,267.32 | | 41,878.95 | | — 12,611.63 |
| Dividend income | 488,934.00 | | 529,023.75 | | — 40,089.75 |
| Income from funded securities | 143,434.94 | | 140,416.35 | | + 3,018.59 |
| Income from unfunded securities and accounts | 55,515.33 | | 23,274.10 | | + 32,241.23 |
| Income from sinking and other reserve funds | 20,320.22 | | 20,928.18 | | — 607.96 |
| Total non-operating income | $ 909,285.02 | | $ 926,476.17 | | —$17,191.15 |
| Gross income | $5,417,741.61 | | $5,376,299.69 | | +$41,441.92 |
| **Deductions from Gross Income:** | | | | | |
| Rent for leased roads | $ 344,501.69 | | $ 345,719.48 | | +$ 782.21 |
| Miscellaneous rents—Deductions | 152,523.36 | | 139,416.21 | | + 13,107.15 |
| Miscellaneous tax accruals | 4,240.25 | | 3,181.75 | | + 1,058.50 |
| Interest on funded debt | 3,000,810.12 | | 3,022,832.18 | | — 22,022.06 |
| Iterest on nonnegotiable debt to affiliated companies | 67,877.02 | | 48,881.07 | | + 18,995.95 |
| Interest on unfunded debt | 3,718.57 | | 9,070.70 | | — 5,352.13 |
| Amortization of discount on funded debt | 67,014.12 | | 79,203.82 | | — 12,189.70 |
| Miscellaneous income charges | 19,012.47 | | 17,802.74 | | + 1,209.73 |
| Total deductions from gross income | $3,659,697.60 | | $3,664,107.95 | | —$ 4,410.35 |
| Income balance transferred to credit of Profit and Loss | $1,758,044.01 | | $1,712,191.74 | | +$45,852.27 |

[ADVERTISEMENT]

# Financial News

(*Continued from page 895*)

$159,669. Selected items from the income statement follow:

| | 1929 | 1928 | Increase or Decrease |
|---|---|---|---|
| Railway Operating Revenues | $12,212,596 | $12,650,717 | —$438,120 |
| Maintenance of way | 1,762,880 | 1,807,764 | — 44,884 |
| Maintenance of equipment | 2,389,025 | 2,359,986 | + 29,039 |
| Transportation | 5,363,612 | 5,605,492 | — 241,880 |
| Total Operating Expenses | 10,202,328 | 10,496,821 | — 294,493 |
| Operating ratio | 83.54 | 82.97 | + .57 |
| Net Revenue from Operations | 2,010,269 | 2,153,896 | — 143,627 |
| Railway tax accruals | 488,101 | 529,631 | — 41,529 |
| Railway operating income | 1,521,717 | 1,622,787 | — 101,070 |
| Equipment rents—Net | 577,428 | 611,383 | — 33,956 |
| Joint facility rents—Net | 92,924 | 97,826 | — 4,902 |
| Net Railway Operating Income | 851,365 | 913,577 | — 62,212 |
| Non-operating income | 372,729 | 369,431 | + 3,298 |
| Gross Income | 1,224,094 | 1,283,008 | — 58,914 |
| Rent for leased roads | 227,875 | 227,875 | ..... |
| Interest on funded debt | 1,169,058 | 1,155,526 | + 13,533 |
| Total Deductions from Gross Income | 1,474,139 | 1,442,677 | — 31,462 |
| Net Income* | 250,045 | 159,669 | + 90,376 |

* Deficit.

Pennsylvania.—*Bonds.*—The Interstate Commerce Commission has authorized this company to issue $60,000,000 of 4½ per cent debenture bonds, maturing in 1970, redeemable prior to that date at a maximum premium of 2½ per cent. The issue is authorized for sale to Kuhn, Loeb & Co. at 92 making the average annual cost to the railroad 4.962 per cent.

Pennsylvania.—*Increase in Authorized Stock.*—At the eighty-third annual meeting of the stockholders of this company on April 8, a resolution increasing by $170,000,000 the authorized capital stock of this company was submitted and put to a stock vote which will be returnable at the annual election of directors to be held on April 22. At the same time another vote will be taken on the proposal that the directors be authorized to offer $18,000,000 of the company's stock for subscription by employees at par on a monthly installment basis.

Pittsburgh & West Virginia.—*Bonds.*—Brown Brothers & Co., Stone & Webster and Blodget, Inc., and Chase Securities Corporation are offering $6,000,000 of first mortgage 4½ per cent bonds, series C., of this company to mature in 1960. The issue is priced at 94½ to yield about 4.85 per cent and is subject to the approval of the Interstate Commerce Commission. It is redeemable on any interest date with notice at premiums ranging downward from 5 per cent.

Reading. — *Bonds.* — The Interstate Commerce Commission has authorized the North East Pennsylvania Railroad to extend from April 1, 1930, to April 1, 1955, the maturity of $400,000 of its first mortgage bonds. The Reading Company has been authorized to assume obligation and liability as guarantor of these bonds.

Southern Pacific.—*Increase in Authorized Stock.*—At the annual meeting of this company on April 9 the stockholders voted to permit an increase of $200,000,000 in authorized capital stock.

*New Director.*—Thomas Nelson Perkins, president of the Boston & Maine, has been elected a director of this company.

Texas & Pacific.—*Final Valuation.*—The Interstate Commerce Commission has issued a final valuation report as of 1916 finding the final value for rate-making purposes of the property owned and used for common-carrier purposes to be $65,465,000 and that of the property owned but not used to be $3,456,938.

Virginian.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to nominally issue $4,538,500 of first mortgage 50-year 4½ per cent bonds to reimburse the treasury for expenditures not yet capitalized.

Wabash.—*Valuation Case Re-Opened.*—The Interstate Commerce Commission has reopened the proceedings in this company's valuation case to receive additional testimony as to the approximate investment in its property.

## Average Prices of Stocks and of Bonds

| | Apr. 8 | Last week | Last year |
|---|---|---|---|
| Average price of 20 representative railway stocks | 136.11 | 138.06 | 129.11 |
| Average price of 20 representative railway bonds | 94.08 | 94.21 | 90.70 |

## Dividends Declared

Alleghany Corporation.—Preferred A, $1.37½, quarterly, payable May 1 to holders of record April 15.

Cleveland, Cincinnati, Chicago & St. Louis.—Preferred, $1.25, quarterly, payable April 30 to holders of record April 19.

---

As a result of heavy freight and passenger traffic, 14 privately owned railways of the Argentine Republic were able to report highly satisfactory operating results for the year 1929, according to reports received by the Department of Commerce. A total of 18,651 route miles were operated by the combined railways at the end of the year, an increase of 422 route miles over 1928. Passengers carried during the year numbered 160,233,200, in comparison to 153,578,337 in 1928, while metric tons of freight handled increased from 46,167,146 to 49,438,900. Revenue for 1929 amounted to 270,008,100 gold pesos ($246,625,399), an increase of more than seven million pesos over the 1928 revenues of 262,763,827 pesos ($240,008,480). Expenses, however, increased by less than five million pesos, from 184,066,634 pesos ($168,126,464) in 1928 to 189,989,700 pesos ($173,536,592) in 1929, leaving an operating profit for the year of 80,018,400 pesos ($73,088,807) as compared with a 1928 net of 78,697,193 pesos ($71,882,016).

# *Railway Officers*

## Executive

**J. C. Cullom** has been elected vice-president of the Mississippi River Western, with headquarters at Wilson, Ark.

**A. C. McDaniel,** general manager and treasurer of the Port Huron & Detroit, has been elected vice-president, with headquarters as before at Port Huron, Mich., succeeding **George H. Young,** who has resigned.

**Joseph Glass** has been elected president and general counsel of the Louisiana & North West, with headquarters at New York. **T. G. Benton** of New York has been elected treasurer.

**Edward S. French,** president of the Montpelier & Wells River, the Barre & Chelsea and the White River, and vice-president of the St. Johnsbury & Lake Champlain, was elected president of the Boston & Maine at the meeting of directors held in Boston on April 9, replacing **Thomas Nelson Perkins,** who has been acting president since the death of George Hannauer on November 2, 1929. Mr. Perkins will continue as chairman of the executive committee.

**Patrick H. Joyce,** president of the Standard Steel Car Corporation, Chicago, was elected chairman of the executive committee of the Chicago Great Western at the annual meeting at Chicago on April 8. Mr. Joyce succeeds **Bernard E. Sunny,** chairman of the board of the Illinois Bell Telephone Company, Chicago, and vice-chairman of the board of the Great Western, who was elected chairman of the board of directors. Mr. Sunny fills the position left vacant by the recent death of **Samuel M. Felton. John W. O'Leary,** president of the National Bank of the Republic, Chicago, was elected vice-chairman of the board of directors, replacing Mr. Sunny.

**John Clyde Austin,** whose promotion to assistant to vice-president of the Southern, with headquarters at Washington, D. C., was announced in the *Railway Age* of April 5, was born on July 29, 1882, at Rome, Ga. He was educated in the grammar schools and Neils Business School. In 1891, Mr. Austin commenced his railway career as a lamp lighter at Sugar Valley, Ga., with the Southern, and has been in the continuous service of this company to the present time. From 1901 to 1904 he served as switchman and yardmaster at Selma, Ala., and in the latter year he was appointed freight conductor. From 1910 to 1915, he held the position of general yardmaster. In 1915 he was appointed trainmaster at Wilton and Birmingham, Ala., and he served as superintendent of the Mobile division, Alabama Great Southern, and the Birmingham division, respectively, from March 1, 1920 to October 1, 1927. On the latter date he was advanced to gen-

eral superintendent of the Queen and Crescent district at Chattanooga, Tenn., which position he vacates to serve as assistant to vice-president.

**H. T. Newcomb,** general counsel of the Delaware & Hudson, with headquarters at New York, has also been appointed vice-president, with jurisdiction over the law department. Mr. Newcomb was born on January 4, 1867, at Owosso, Mich., and was educated in the public schools and at Columbian (now George Washington) University. He was employed in the accounting department of the Chicago, Milwaukee & St. Paul, and subsequently by the Interstate Commerce Commission, from 1888 to 1895. From 1895 to 1899 he was chief of the Transportation section in the United States Department of Agriculture and from 1899 to 1901, was with

H. T. Newcomb

the division of agriculture of the twelfth United States Census. During the later years of his service in Washington he lectured at Columbian University on statistics and transportation. In 1901 he resigned from federal service to become editor of the Railway World. About two years later Mr. Newcomb began the practice of law, appearing in 1902 and 1903 as one of the counsel for the Philadelphia & Reading Coal & Iron Company before the Anthracite Strike Commission. From 1903 to 1916 he was engaged in law practice in Washington, in the latter years as the senior member of the firm of Newcomb, Churchill and Frey (later Newcomb & Frey) which he organized in 1907. In 1916 he moved to New York City and after five years' general practice in that city became general solicitor of the Delaware & Hudson, which position he held until he was appointed general counsel in 1926.

## Financial, Legal and Accounting

**J. R. Wilkerson** has been appointed auditor of the Akron, Canton & Youngstown, with headquarters at Akron, Ohio.

**A. J. Berta,** assistant treasurer of the Illinois Terminal System, has been promoted to treasurer, with headquarters as before at Chicago.

**R. D. Murray,** assistant auditor of disbursements of the Cleveland, Cincinnati, Chicago & St. Louis, has been promoted to auditor of disbursements with headquarters as before at Cincinnati, Ohio.

**V. L. Thompson,** chief clerk to the president of the Gulf, Mobile & Northern, has been elected secretary of that road and assistant secretary of the New Orleans Great Northern, with headquarters at Mobile, Ala. As secretary of the G., M. & N., Mr. Thompson succeeds **R. F. Brown,** who continues as vice-president at New York.

**W. S. Ure,** auditor of miscellaneous accounts of the Oregon Short Line, with headquarters at Salt Lake City, Utah, has been promoted to assistant treasurer, with headquarters at the same point, succeeding **C. H. Jenkinson,** who retired from active duty on April 1 after more than 50 years of railway service. **E. B. Conrad,** auditor of freight accounts, has been appointed auditor of miscellaneous accounts, replacing Mr. Ure. **R. Wipprecht,** auditor of disbursements, has been appointed auditor of freight accounts, to succeed Mr. Conrad. **F. J. Krecek** has been appointed auditor of disbursements succeeding Mr. Wipprecht.

## Operating

**W. Claus,** engineer maintenance of way of the Cumberland & Pennsylvania, has been promoted to general manager, with headquarters as before at Cumberland, Md.

**W. J. McNabb,** general yardmaster of the Canadian National at Port Arthur, Ont., has been advanced to assistant superintendent, with headquarters at Moose Jaw, Sask., succeeding **E. W. Cameron,** transferred. **W. E. Rivers,** division engineer at Edson, Alta., has been assigned a similar position at Prince Albert, Sask., succeeding **L. S. Daynes,** transferred.

**J. A. Moran,** superintendent of the River division of the St. Louis-San Francisco, with headquarters at Chaffee, Mo., has been transferred to the Eastern division, with headquarters at Springfield, Mo., succeeding **E. L. Magers,** who resigned on April 1. **J. S. McMillan,** assistant superintendent of the River division at Chaffee, has been promoted to superintendent of that division to succeed Mr. Moran.

## Traffic

**E. E. Eversull** has been appointed general freight agent for the Mississippi Export at St. Louis, Mo.

**W. M. Kirkpatrick** has been appointed general agent of the Denver & Rio Grande Western at Durango, Colo.

**Carroll H. Smith** has been appointed general southeastern agent of the Louisiana & Arkansas, with headquarters at Atlanta, Ga.

**A. C. Thompson** has been appointed assistant general passenger agent of the Cleveland, Cincinnati, Chicago & St. Louis at Cincinnati, Ohio.

**R. H. Deitiker** has been appointed general agent of the Gulf, Colorado & Santa Fe at San Antonio, Tex., succeeding **M. E. Thompson,** deceased.

**Ernest Lortio,** city passenger agent of the Central Vermont at Montreal, Que., has been promoted to general agent, with headquarters at the same point.

**Clark Davis** has been appointed assistant general freight agent of the Atchison, Topeka & Santa Fe at Topeka, Kan.

**E. H. DeBoard,** general freight and passenger agent of the Detroit, Toledo & Ironton, has been promoted to traffic manager, with headquarters as before at Dearborn, Mich.

**J. A. Gorman,** chief of the tariff bureau of the Illinois Terminal System, has been promoted to general freight agent, with headquarters as before at St. Louis, Mo., succeeding **W. H. Blair,** who has resigned.

**J. C. Glenn,** general agent of the Minneapolis & St. Louis at St. Paul, Minn., has been transferred to Minneapolis, Minn., succeeding **F. L. Hansen,** who has been transferred to Duluth, Minn. Mr. Hansen succeeds **E. A. Healy,** who has been transferred to St. Paul.

**Carl A. Riebling,** general baggage agent of the Michigan Central, with headquarters at Detroit, Mich., has been appointed assistant general passenger agent, with headquarters at Chicago, succeeding **H. C. Carson,** who was recently appointed general passenger agent of the Cleveland, Cincinnati, Chicago & St. Louis.

**W. G. Strohm,** general freight agent of the Litchfield & Madison, has been promoted to traffic manager, with headquarters at St. Louis, Mo. **Charles Litzky,** general agent at Milwaukee, Wis., **Fred N. Hait,** general agent at Cleveland, Ohio, and **A. D. Fowler** have been appointed assistant traffic managers, with headquarters at Milwaukee, Cleveland, and Chicago, respectively. The headquarters of W. T. McNamara, assistant general freight agent, have been removed from Edwardsville, Ill., to St. Louis. **E. F. Randall** and **L. F. Moore** have been appointed general agents at St. Louis and Kansas City, Mo., respectively.

Effective May 1, **C. E. McPherson,** assistant passenger traffic manager of the western lines of the Canadian Pacific, with headquarters at Winnipeg, Man., will relinquish active duties, but will serve from time to time in an advisory capacity. He will be succeeded by **N. R. DesBrisay,** general passenger agent of the Kettle Valley and the Canadian Pacific, with headquarters at Vancouver, B. C. **H. W. Brodie,** assistant

passenger traffic manager of the eastern lines at Montreal, Que., will serve as overseas traffic manager, with headquarters at the same point, specializing on new and additional traffic to Canada, and will be succeeded by **R. G. McNeillie**, general passenger agent at Winnipeg. **H. R. Mathewson**, general agent of passenger traffic at Toronto, will serve as general passenger agent at Winnipeg. **E. L. F. Sturdee**, assistant general passenger agent at Montreal will serve as general passenger agent at Vancouver. **George E. Carter**, district passenger agent with headquarters at St. John, N. B., will be advanced to assistant general passenger agent at Montreal.

## Engineering, Maintenance of Way and Signaling

**J. A. Bryan**, roadmaster on the Northern Pacific at Missoula, Mont., has been promoted to division roadmaster at Spokane, Wash., succeeding **J. M. Hurley**, who retired from service under the pension rules of the company on April 1.

**L. S. Daynes**, division engineer in the Western region of the Canadian National at Prince Albert, Sask., has been transferred to Kamloops, B. C. **W. E. Rivers**, division engineer at Edson, Alta., has been transferred to Prince Albert, to succeed Mr. Daynes.

**G. O. Long**, assistant division engineer on the Pennsylvania at Fort Wayne, Ind., has been promoted to division engineer at Indianapolis, Ind., succeeding **G. H. Schlotterer**, who has been transferred to Toledo, Ohio. Mr. Schlotterer replaces **H. W. Brown**, who has been transferred to the office of the chief engineer, maintenance of way, of the western region at Chicago. **F. G. Church**, supervisor of track in the Central region at Wooster, Ohio, has been promoted to assistant division engineer at Fort Wayne, to succeed Mr. Long.

## Mechanical

**E. A. Murphy** has been appointed power supervisor of the Missouri-Kansas-Texas lines, with headquarters at Dallas, Tex., succeeding **S. H. Barnes**, deceased.

**J. W. Surles**, superintendent of shops on the St. Louis-San Francisco at Springfield, Mo., has been promoted to assistant superintendent of motive power, with headquarters at the same point, succeeding **Pierre O. Wood**, deceased.

**J. W. Jackson**, locomotive foreman on the Canadian Pacific at Lethbridge, Alta., has been promoted to master mechanic of the Edmonton division at Edmonton, Alta., succeeding **J. W. Keppel**, who has been transferred to the Brandon division at Brandon, Man. Mr. Keppel succeeds **D. D. Cossar**, who has been transferred to the Revelstoke division at Revelstoke, B. C., replacing **M. W. Boucher**, who was killed in a snow slide on February 19.

**M. A. Daly**, general fuel supervisor of the Northern Pacific at St. Paul, Minn., has been appointed master mechanic of the Pasco division at Pasco, Wash., succeeding **G. L. Ernstrom**, who has been transferred to the Rocky Mountain division at Missoula, Mont. Mr. Ernstrom replaces **W. D. Gochenour**, who has been transferred to the Yellowstone division at Glendive, Mont., where he succeeds **J. A. Marshall**, who has been transferred to the Idaho division at Parkwater, Wash. Mr. Marshall succeeds **R. P. Blake**, who has been transferred to the Tacoma division at Tacoma, Wash., succeeding **Charles Emerson**, deceased. **M. F. Brown**, road foreman of engines on the Rocky Mountain division at Garrison, Mont., has been promoted to general fuel supervisor, succeeding Mr. Daly.

## Purchases and Stores

**A. J. Stocker** has been appointed storekeeper of the Tucson division of the Southern Pacific, with headquarters at Tucson, Ariz.

**J. J. Jirousek** has been appointed storekeeper of the Chicago, Burlington & Quincy at Grand Crossing, Wis., succeeding **J. R. Hunter**, who has been assigned to other duties.

**W. J. Kelleher**, division storekeeper on the Illinois Central at New Orleans, La., retired under the pension rules of the company on March 31, after 33 years of service with that road.

**Edwin Meyer**, who resigned recently as general storekeeper of the Louisville & Nashville, with headquarters at South Louisville, Ky., has opened an office for the practice of law at Louisville, Ky.

## Obituary

**William P. Martin**, who retired from active service in 1926 as assistant superintendent of the Vancouver (B. C.) terminals of the Canadian Pacific, died at Vancouver on March 20.

**John B. Andrews**, former assistant to the president of the Denver & Rio Grande, who retired from active service on October 1, 1918, died at the Memorial hospital, New York, on March 31, at the age of 79 years.

**Daniel W. Donahue**, former division superintendent of the Michigan Central, who retired in 1926, died at Los Angeles, Cal., on March 6 from injuries received in an automobile accident. Mr. Donahue, who was born at Batavia, N. Y., on October 25, 1857, had been engaged in railway work for 50 years. He had served as division superintendent on the Michigan Central at Detroit, Mich., Bay City, Chicago and St. Thomas, Ont., during the period from January 1, 1916, until his retirement on May 1, 1926.

**S. H. Barnes**, power supervisor of the Missouri-Kansas-Texas lines, with headquarters at Dallas, Tex., died at Baylor hospital in that city on February 22, at the age of 69 years. Mr. Barnes had served as superintendent on the Denver & Rio Grande Western at Alamosa, Colo., superintendent of transportation and motive power of the Midland Valley at Muskogee, Okla., trainmaster on the Missouri Pacific at Alexandria, La., and North Little Rock, Ark., and superintendent of terminals of the same road at Texarkana, Ark. He had been power supervisor for the Katy since 1920.

**Ralph H. Wallace**, who retired as passenger traffic manager of the Erie in December, 1927, after 53 years of service with the road, died at his home in Montclair, N. J., on April 5. He was born on August 31, 1858, at Zanesville, O., and was educated in the public schools. He entered railway service on March 1, 1875, as station agent on the Erie at Geneva, Pa., which position he held until November 1, 1880, when he was appointed station agent at Lakewood, N. Y. On October 1, 1882, Mr. Wallace was appointed to a similar position at Atlantic, Pa. From March 1, 1887, until March 1, 1892, he was ticket agent at Oil City, Pa., and then became traveling passenger agent at

Ralph H. Wallace

Akron, O., being transferred in the same capacity to Youngstown, O., in 1894. From May 1, 1896 until March 1, 1902, he was general agent in the passenger department at Cleveland, O., and then became assistant general passenger agent, which position he held until January 14, 1905. At that time Mr. Wallace was appointed general passenger agent at New York, continuing in this capacity until April 17, 1918, all this service being with the Erie. From April 18, 1918, until February 29, 1920, Mr. Wallace was a member of the passenger traffic committee, Eastern territory, United States Railroad Administration, and on March 1, 1920, became passenger traffic manager of the Erie, which position he held until his retirement. In 1912 and 1913 Mr. Wallace was president of the Passenger Traffic Officers' Association and in 1913 and 1914 was president of the New York Traffic Club.